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TEACHING NUTRITION TO MEDICAL STUDENTS

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THE course in physiology of nutrition, which has been given to all second-year medical students at the University of Rochester Medical School since 1925, includes digestion, secretions, excretions, metabolism, normal and therapeutic diets and endocrinology. The program, given in the Department of Vital Economics under the direction of Dr. John R. Murlin, is one of intensive work—four half-days a week for a ten-week period. The students are divided into four groups of equal numbers and rotate during each four-week period through four laboratories.

Instruction in nutrition is given in the second four-week period. During this time one group of ten or twelve students spends the entire class period in the diet kitchen acquiring both theoretical and practical knowledge of foods and nutrition. While in the diet kitchen they learn the underlying principles of normal nutrition, the necessity for such standards and the normal range of deviations therefrom. With the normal diet as a basis they learn to vary the diet to suit the needs of the growing child, the adult, and the elderly individual; and to increase and decrease it calorically for the underweight and overweight, respectively, without altering its bulk content. All therapeutic diets are calculated with the normal diet as a basis. A study is made of the dysfunction which brings about a specific disease, the part which this alteration in metabolism plays in digestion, excretion or utilization of food, followed by the logical readjustment of diet to meet the metabolic derangement. Emphasis is placed on the modification of the patient's own diet to suit his needs rather than using standard diets which appear in text books. The need for adjustment to economic and environmental conditions, as well as to the patient's food habits and food preferences, is stressed. The special diet deviates as little as possible from the normal adequate standard. Diets in which fat-carbohydrate adjustment is necessary, as in diabetes, hypoglycemia, epilepsy and celiac disease, and conditions in which protein adjustment is indicated as in convalescence, nephrosis, etc., are discussed both as group and individual problems. All of the conditions needing dietary alteration and those in which it is unnecessary are outlined. Current research is indicated.

The students are urged to begin a clinical history, routinely, by obtaining

an outline of diet and activity. In this way abnormalities of food or health habits may immediately be found and corrected. Many times carelessness in either or both of these habits may be the sole cause of the ill health. In any event, establishment of good food and health habits is an asset in combating any abnormal clinical condition. The students are made to realize that good nutrition includes not only proper food but proper health habits, rest, adjustment to environment or of the environment to the individual, mental security, and so on—all must be considered in any nutrition or clinical problem.

The adjustment of normal standards and special diets to low cost budgets is discussed and methods suggested.

References are given for various phases of the nutrition problem—government bulletins, charts, and experiment station reports, as well as other source material for class use.

A food exhibit of 100 calorie portions in the diet dining room keeps a visual demonstration of food composition before the students at all times. The hundred calorie portion was chosen as the basis for the exhibit because it so frequently approximates an average serving of cereals, cereal products or fruits, one-half a serving of meats, and two, three or four times a serving of vegetables. It is also the most readily visualized measurement. By means of this exhibit, diets can actually be worked out in terms of meals, bulk content can be adjusted, color effects seen, or clinical diets planned. For example, the demonstration of carbohydrate relationships in the diabetic's diet by such a method is much more effective than by means of lectures or printed directions.

The students have an opportunity to try "living on a diet" during this time. Each student prepares and eats his weighed and measured meals in company with the rest as a family group in the diet dining room. In this way the fundamental principles of cooking are taught, attractiveness in serving suggested as a means of tempting appetite, ways of padding a diet tried, or bulk adjustments made.

Various food principles are demonstrated in these diets. For example, two students demonstrate the acid-base changes on the ingestion of fruits: one adds to his normal diet, which he has lived on for several days, a definite amount of orange; the other adds the caloric equivalent of the orange, in the form of prunes. Another pair follow the same procedure with rice and potato. A third pair act as controls, eating throughout an unchanged normal diet. A fourth demonstrate differences in protein level and so on.

While some of the students are working in the diet kitchen, others are in the physiological chemistry laboratory of the department carrying out the necessary chemical analyses of the excreta. The discussions during this time in the chemical laboratory are on analyses used in metabolic disturbances. On Saturday morning the two groups come together for a comparison of diet and chemical findings. The student working on diet calculations explains his diet, giving reasons for its use, and the theoretical urinary or blood effect. His associate in the chemical laboratory answers this with the actual findings, their significance, variations, methods, etc. During the second week, the two groups are reversed.

If any student in a group has a metabolic disturbance, he may follow his own case rather than elect one of the prescribed diets.

During their week in the diet kitchen, the students maintain a constant water intake, as well as a constant food intake, and their activity is varied as little as possible—at least the number of hours of sleep and exercise is approximately constant. Extraneous influences on metabolism, as far as possible, are ruled out.

During this second four-week period, another group make bomb and oxycalorimeter determinations of food values and compare calculated values of food constituents with analytical data. Diets are constructed to produce various deficiency diseases, and animals maintained on such diets until the specific deficiency disease is in evidence. All students are expected to watch the progress of the disease and its accompanying symptoms. Deficiencies due to an inadequate intake of vitamins, minerals and amino acids are produced.

Other students, meanwhile, are studying the effect of foods on metabolism—the specific dynamic action of protein, fat and carbohydrate, and the effect of exercise. In this way they demonstrate, practically, the caloric needs of the body and the specific caloric effect of activity and food.

At the end of the second four-week rotation, an opportunity is offered for special problem work in nutrition to a limited group of students. Students may elect a problem in any phase of the entire subject in which he desires further work. The problems which have been chosen include: effect of exercise on uric acid excretion; effect of various fruit acids on the digestibility of milk curd by gastric contents; specific dynamic action of various proteins; effect of caffeine on nitrogen excretion; effect of fructose ingestion on ketosis caused by an all cream diet in a normal male subject; and so on.

During the entire course a lecture is given in the first hour of the day. These lectures cover various phases of metabolism, effect of temperature, fevers, vitamins, minerals, alimentation and endocrinology, as will be seen in the appended list.

Lecture Subjects

Mechanical Factors in Digestion
Secretion
Composition of Foods
Enzymes
Digestion
Absorption
Vitamins—2 lectures
Basal Metabolism
Fasting Metabolism
Heat Regulation
Specific Dynamic Action
Work Metabolism
Liver Function
Intermediary Protein Metabolism
Kidney Function
Intermediary Metabolism of Carbohydrate
Intermediary Metabolism of Fat
Mineral Metabolism
The Thyroid Gland
The Internal-Secretion of the Pancreas
Diabetes Mellitus
Pituitary
The Adrenals
The Thymus Gland
The Sex Hormones
The Physiology of Reproduction
The Metabolism of Pregnancy
Lactation

For details of the laboratory work, outline of lectures, and course content, the reader is referred to *The Laboratory Course in Physiology of Nutrition and Endocrinology* published by John S. Swift and Company, New York City.

THE PLACE OF NUTRITION IN THE NURSING CURRICULUM

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THE subject of nutrition has for many years been recognized as suitable for inclusion in a program dealing with the preparation of the student nurse for her profession. It is with some hesitancy that I revive this topic of the nutrition instruction of the student nurse, since to many dietitians this part of their work seems of minor importance compared to their other responsibilities. In the past few years, however, the entire nursing curriculum has undergone critical discussion by members of the nursing profession, resulting in the publication, in 1937, of the *Curriculum Guide for Schools of Nursing* by the League of Nursing Education. As with time the curriculum of the school of nursing has enlarged to include an ever-widening field of endeavor, so the field of nutrition itself has increased in scope and changed in emphasis. Whereas formerly we thought of nutrition in the hospital primarily in relation to therapeutic diets, today our emphasis has veered to the application of the principles of normal adequate nutrition in the feeding of all patients under our jurisdiction, and we are slowly becoming aware of the opportunities for the teaching of these principles to all groups who come in contact with the hospital. This change should reflect itself in the content and method of the nutrition instruction which we give to the student nurse.

Today our world is as much concerned with prevention of disease as with its cure, and the education of the public is one of the major tasks of modern medicine. It is not necessary here to stress the rôle nutrition plays in the maintenance of good health. Some years ago, when we were younger as a profession and more jealous of our prerogatives, we felt that only we were fully qualified to teach this relationship. There are not nearly enough of us, however, who have an intimate association with patients and public like that of the nurse. Today, the nurse, not only at the bedside but in the field of public health, is expected more and more to assume the responsibility for imparting the principles of good nutrition. Meanwhile, the place of the dietitian in this field has become primarily that of consultant. If we grant that the nurse is the logical person to teach normal nutrition to the layman, we must keep this in mind when we evaluate our instruction in this field during her student years.

We should distinguish at once the difference between learning sufficient content of a subject to pass a creditable examination, and knowing the fundamentals so well that one can teach them. The psychologists tell us that we retain only one-tenth of any new information the first time we hear it. Graham Lusk tells of a speech of Sir William Osler in which the latter maintained that the essence of successful teaching consisted of "Reiteration, reiteration, reiteration", and was admonished by a member of his audience to add "without irrita-

tion" (1). If successful teaching be accepted as reiteration without irritation, and we apply this concept to our usual program of two courses in nutrition and a practice period as the sum total of the student nurse's training in this field, we find that the two have little in common. The solution would seem to lie not in additional hours alloted to the subject, but in breaking down the courses as now given into smaller units, to give opportunity for recalling material learned, and to associate new facts with growing experience and related subjects. To do this effectively, it becomes necessary to teach in smaller groups, using the conference method to supplant to a great extent the time now allotted to lectures.

At the New York Hospital School of Nursing we have attempted to put such a program into effect. The chart accompanying this article shows the plan for the three years in outline. I should like not so much to explain as to supplement its content, and discuss this in terms of the aims of which we have spoken.

THE FIRST YEAR

In the first year the usual courses in nutrition and diet therapy are given, but the number of lecture hours allotted to each of these is brief. The work in nutrition follows that in chemistry and physiology, and since it deals only with normal, adult nutrition, it can easily be covered in ten hours, provided the student's instruction in the preliminary sciences has been adequate. The course in diet therapy coincides, subject for subject in so far as possible, with the lectures in medical and surgical diseases. Its content aims simply to introduce the student to the principles of dietary treatment and to the food changes and substitutions inherent in such principles, for she will have occasion to use this preliminary information much more intensively later on in her experience. No single text is used, but a series of references to the well equipped bookshelves of the nursing school library is given at the end of each lecture, for the student to pursue as she wishes.

Of the sixty hours allotted to this part of the subject, forty are devoted to cooking. We have no diet kitchen at the New York Hospital, and therefore this is the total practice the student has in cooking. This does not appear as disadvantageous as might be supposed. It is questionable how much the student profits from the often poorly supervised experience under constant pressure in the diet kitchen.

The content of the course follows the usual lines. The first part, given while the student is having her nutrition lectures, is devoted to foods having a common basis for preparation such as the cereals or the vegetables. In the second half, during which they attend diet therapy lectures, the students in groups prepare trays to illustrate the dietary principles of the disease or diseases under discussion that week. Each student is required to own a cook book. At the end of the cookery period, the class assembles with its finished products, to taste and discuss the results. Properly directed, such discussion serves to emphasize underlying principles, and should lead to the development of a sense of discrimination as to what constitutes good and poor food, quite independent of the student's own performance for that day. One will find that defensive attitudes over poor or spoiled products

disappear and are replaced by a desire to try the recipe again in order to correct faulty technique. Since this course is not a preparation for diet kitchen experience later on, it is taught with two purposes in mind. One is emphasis on the "enjoyment value" of food, whether we are well or ill. The second is that poor preparation is often the cause of a dislike for certain foods. I need but mention spinach or oatmeal as examples. It is soon apparent, therefore, that a

THE PLACEMENT OF NUTRITION IN THE NURSING CURRICULUM

The New York Hospital School of Nursing

FIRST YEAR

Pre-Clinical period—24 weeks	Clinical period—24 weeks
Nutrition, Foods and Cookery 10 hours lecture 20 hours cooking 30 hours The course in nutrition comes in the second half of the pre-clinical period, when the student has finished chemistry and physiology. It includes the study of normal adult human nutrition, and of food composition	Half the class goes to Medicine, half to Surgery. At the end of 12 weeks the groups are reversed *Diet Therapy and Cookery* 10 hours lecture 20 hours cooking 30 hours The course in diet therapy is given concurrently with the Medical and Surgical lectures. *Medical Conferences:* individual weekly conferences of fifteen minutes duration; for the purpose of correlating the diet to the disease and with the nursing care of the patient whom the student is studying that week.. 3 hours *Surgical Conferences:* given weekly as part of the nursing lecture to the group of students in surgery; to correlate theory with practice and to stimulate observation 3 hours

SECOND YEAR

The class is divided into thirds, one-third going to Medicine and Surgery, one-third to Obstetrics, and one-third to Pediatrics, and rotating at the end of each term.

Medicine and Surgery—16 weeks	Obstetrics—16 weeks	Pediatrics—16 weeks
Diet Therapy practice..... 192 hours Including 8 hours of conferences The four weeks are spent with the ward dietitian, two weeks on Medicine and two weeks on Surgery. Under her supervision, the student plans the menus for general and therapeutic diets, serves the trays, and is responsible for the full dietary care of all patients on a ward of thirty-bed capacity. Emphasis is placed on suiting the diet to the individual patient, and on the opportunities for teaching good food habits.	*Nutrition in Obstetrics* Normal ante-partum and post-partum nutrition... 1½ hours Complications of pregnancy in which diet is a factor..... 1 hour Teaching observation and practice—mothers' classes..... 1½ hours Total 4 hours This unit of the nutrition teaching program is given when the student is on the ante- and post-partum floors, and is related to the patients under her care. *Budgets; food in the family*... 1 hour Given when the student is in the outpatient department, to correlate nutrition to her study of the social and economic aspects of disease.	*Nutrition in Pediatrics* Normal growth requirements..... 1 hour Nutrition in diseases of childhood..... 1 hour Feeding in infancy; formulas..... 3 hours Total 5 hours *Formula Room practice*..... 48 hours This time is spent with the formula room dietitian in the preparation of formulae. *Diet Therapy practice*..... 24 hours This time is spent with the ward dietitian as on Medicine and Surgery. *Clinical Conferences:* group clinical conferences, each student averaging an attendance of eight; dealing with dietary problems of patients under the students' care..... 4 hours

THE PLACEMENT OF NUTRITION IN THE NURSING CURRICULUM—*Concluded*

THIRD YEAR

The students rotate on the services below for the time periods indicated.

Medicine and Surgery—16 weeks	Psychiatry—16 weeks	Community Nursing Practice—8 weeks	Private Patient Nursing Practice—4 weeks	Out-Patient Nursing Practice—4 weeks
Nutrition Clinic practice.. 96 hours These two weeks are spent with the dietitians in the Nutrition Clinic of the Out-patient Department. The student is given an opportunity to teach both individuals and groups, and learns to consider factors other than diet which influence the patient's ability to follow instruction. *Urological diets*..... 1 hour Given when the student spends four weeks on this specialized service.	*Feeding of mentally ill patients*..... 1 hour Practice in feeding mentally ill patients is incorporated in nursing care.	Although no nutrition work as such is given during this period, the student should enter this phase of her practice with some concept of how to meet the problems she is likely to encounter. Conferences with the district supervisor correlate the subject with the total care of the family.	Observation of private tray service	The student has had the prerequisite nutrition for the correlation of food cost to the nutrition of the patient in her second year.

knowledge of simple cookery plays a part in the attainment of good nutrition.

As can be seen on the chart, clinical conferences in nutrition begin as soon as the student comes on full-time service in the wards, whether she goes first to medicine or to surgery. On medicine these conferences are given for the purpose of correlating the diet to the disease and with the nursing care of the patient whom the student is studying that week. Usually she writes an account of a day's menu served to her patient, and describes the relationship of the disease, the diet order, and the food on the tray. Notations are made of over or underweight, of the patient's appetite and likes or dislikes, and the adequacy or inadequacy of the diet compared with the standards of normal nutrition; the primary concern at this point, however, is that the student learn to observe principles in practice. On surgery the conference takes place with the entire group attending, and follows directly upon the surgical nursing lecture that week. The diet in the diseases covered in the nursing lecture is briefly reviewed, and students are then encouraged to report their own observations on patients with such diseases on their wards—never a difficult procedure with young nurses.

The first year, then, serves to acquaint the student with the principles of nutrition as they are related to the maintenance of health and to the treatment of disease in the adult. She should also have acquired a knowledge of the underlying principles and an appreciation of good cooking. A beginning should have been made to give this body of facts a sense of reality by relating it not only to the establishment of the student's own good food habits, but also to the nursing

care of her patients, a relationship to be amplified and strengthened in the next two years.

THE SECOND YEAR

The student's second year in the nursing school is spent among three services, and the class is likewise divided into thirds. The nutrition teaching program outlined on the chart for each of the three services is repeated each trimester, and therefore the three divisions are taught concurrently. As a matter of fact, the work in obstetrics is repeated every four weeks, as each new group of students comes on adult care. This is true also of the diet therapy conferences in medicine and surgery.

The diet therapy practice corresponds to the diet kitchen experience as given in most hospitals. Under the supervision of the ward dietitian, the student plans, orders and serves the diets for all patients on a ward. She calculates diabetic diets as well as other food intakes of which the doctor wishes to have a daily record. This may amount to from ten to twelve calculations on medical wards. She visits her patients after each meal, noting likes and dislikes, urging Johnny to eat his carrots, and explaining to Mr. Smith why milk is good for the adult as well as the child. The nurse obtains little practice in cookery since all food, whether for general or therapeutic diets, comes up prepared from the main kitchen; but she does learn a great deal about making up therapeutic diets from a general menu, taking into account any dietary preferences the particular patient may have. What is more, she is beginning to teach the reason for a normal adequate diet to her patients. This does not consist of telling a patient to eat "because it is good for you", but of explaining the reason for the food on the tray. It is amazing how much both the student and the patient learn from this informal bedside instruction. "Most patients will drink milk, eat whole grain bread, and their vegetables if you tell them why these are important" reports the student, with a little show of pride; and when she has discovered this fact for herself, she is well on her way to spreading the gospel of good nutrition.

The diet therapy conferences are directed by the teaching dietitian, and serve to bind the student's first year nutrition to her second year practice. Principles are reviewed and theories discussed. An attempt is made to have the student read some of the recent literature in the scientific periodicals. This should be carefully chosen, of course, both for content and interest. However, the student nurse brings to her work a knowledge of disease which serves as an excellent background for such articles as that of Jeghers' on night-blindness (2), and the recent work on pellagra (3, 4, 5, 6). It gives the student a sense of growing into her subject and serves to stimulate her interest. Such reading often leads to discussion of the relation of nutrition to the great economic problems of the world, and the subject becomes significant not only in the nursing field, but is seen to have far wider applications. This cannot fail to be reflected in the student's work with the individual patient on her ward. Foreign food habits, instead of being a troublesome interference with a routine, become a source of information, and every patient becomes a proper subject for education.

When the student comes to the post-

natal service in obstetrics, the principles underlying ante-natal and post-natal nutrition are discussed. Since normal nutrition is by now an old story, so to speak, the new facts are quickly understood and assimilated. Here, too, the student is given her first opportunity to do some formal teaching. The class consists of the group of mothers discharged from the hospital each day, to whom she teaches the need of continuing good nutrition habits when they are at home. The students always enjoy the experience, and it serves the purpose of helping them to organize their knowledge of the subject.

Pediatric service should offer the instructor some of the best nutrition teaching opportunities of the entire curriculum, since the child will show signs of poor nutrition so much more quickly than the adult. The five lecture hours are concerned with nutrition needs in infancy and childhood, variations in diet in diseases of childhood, formula making and proprietary foods. All students have two weeks of half-time practice in the formula room, spending the other half of the day on the infants' floor, and thus correlating their work on the two services. The students also spend a week, half-time, with the ward dietitian on the older children's floor. During the entire term weekly conferences are conducted by the students on both the infant and the older children's wards, concerning a specific patient on the floor who suffers from a disease in which treatment by diet is a factor. Both the teaching dietitian, who assigns the cases, and the nursing supervisor attend the conference and direct the discussion.

The hour's lecture on food for the family and on budgets is given when the student comes on out-patient service, whether on pediatrics or obstetrics. The material is intended merely to give the student an appreciation of this part of the field, and is related to the out-patient problems she is studying at this time.

THE THIRD YEAR

The third year further broadens the student's application of nutrition principles to include contact with the widely varying social and economic problems of the out-patient, through the nutrition clinic. For two weeks, under the supervision of the dietitians, she learns to help an Irish policeman to follow a gastric régime, to aid a Czech mother in obtaining better nutritive value for money spent, and to educate a Jewish diabetic to follow his instructions. This experience helps to tie up the intensive work in nutrition of the first and second years with that of the third year, and serves as an excellent review.

The discussion of nutrition as it concerns two of the specialties, psychiatry and urology, in which the student is given nursing experience, also comes in the third year. The work on both urological diets and on the feeding of mentally ill patients is given by the dietitians in charge of the respective services.

This completes the formal class, conference and practice program in nutrition. As the first year provided the basis in this field, so the second year broadened that basis and helped the student to apply the principles learned in her care of the patient in the hospital. The work of the third year widens this application still further to include the ordinary individual in his social and economic setting. This spacing of nu-

trition throughout the student's three years of schooling provides that opportunity for "reiteration, reiteration, reiteration" considered the essence of successful teaching, and serves to maintain the student's interest and enthusiasm by having her learn and apply one concept before she is burdened with another. As may be surmised, the student completing such a program is well equipped to impart the principles of normal nutrition to patient and public, and feels that it is part of her job to assume this responsibility.

I have said little, except by implication, of the important part played by the members of the nutrition department and the nursing school faculty in carrying out such a teaching program. It cannot be too strongly emphasized that the entire group must be in accord with the aims and methods of the course. Conferences must be planned when it is possible to release the student from the wards, and students should be sent for practice only when they are fully prepared. Attention to such detail will win cooperation and interest from all those who share in the education of the student nurse.

It might be said that this apparent emphasis on nutrition overbalances the rest of the curriculum. A glance at the chart will show that the total time given to this subject is ninety hours of classes and conferences, and seven and a half weeks of practice. This is well within the limits suggested by the *Curriculum Guide for Schools of Nursing*, yet we feel that the program as it stands fulfils what we conceive to be the purpose of including nutrition in the nursing curriculum; namely, that of teaching the nurse its importance in maintenance of health and prevention of illness to the end that she in turn will spread its message.

For the teacher of nutrition this program arrangement may appear difficult unless the instruction of students is her primary concern, and she has few other duties. It can readily be seen that the three hours per student for medical conferences, multiplied by twenty students, equals sixty hours of the instructor's time. The dietitian in the small hospital, if she is interested in her patients and her students, can often convey much of the correlation of the program informally. Even so, it would seem better from the standpoint of planning for all students, that conference periods be regularly included as part of the student's course. It seems unfortunate to leave this important link in the student's education to chance. Small schools of nursing, not needing a full-time instructor in nutrition, would do well to place the dietitian, part-time, on their budgets. This part-time service, instead of consisting entirely of class and conference hours, should allow as well for study and preparation. Another means of providing adequate instruction in nutrition would be to have one instructor for two or three small schools of nursing. Occasionally a dietitian is qualified to teach other subjects such as chemistry and physiology, and these two subjects, with nutrition, may constitute a full-time position. Certainly our aim should not be more hours for the courses given if these approximate a reasonable amount, but rather, increasing time for the dietitian to make her instruction more effective.

And last but not least are the qualifications the instructor brings to her task. A knowledge of her subject is, of course,

taken for granted, but she must also be able to present it with enthusiasm. Food readily connotes color and flavor and texture and enjoyment; and nutrition has little meaning until it is related to the intricate and marvelous processes of body function. The instructor must have more than a passing acquaintance with the curriculum as a whole, both pre-clinical such as chemistry and physiology, and such subjects as medical and surgical lectures. A lively interest in students and an enthusiasm for teaching are essential prerequisites all teachers should possess. Most young women go into nursing with high ideals of service. When we tie up our field of nutrition to that enthusiasm, we will not lack for response from our students, and not only ourselves but our world will be the richer.

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APPLIED DIETETICS FOR MEDICAL STUDENTS

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THE function of food in the maintenance of normal health and as an aid in the control of disease or recovery therefrom, becomes constantly more apparent. However, the problem of teaching the medical student the fundamentals of this relationship is still in the initial stages of solution. Time is often lacking in the curriculum of the medical school, and even when time for a short course in nutrition has been found, there is frequently little opportunity for the student to have supervised practice in applying the theory learned. Medical students, with their excellent training in physiology and biochemistry, have a good basic foundation for dietetic principles. They need to learn to correlate and apply their knowedge of associated sciences to nutrition, and they need practical experience with patients to develop the technique of teaching and of adjusting diets to individuals in terms of specific dietary and environmental factors.

Students at Cornell Medical College observe and work with the patients of the New York Hospital. During a quarter of their fourth year they are assigned to the various clinics in the Out-Patient Department, where under the supervision of a physician they examine, diagnose and recommend treatment for the patients. The Nutrition Clinic has been included in this schedule for some years, but only for observation since the students were not adequately prepared for practical experience in diet instruction to patients. The past year we have attempted to meet this need by preceding the observation with a series of nutrition lectures, and both this course and the observation and practice period in the Nutrition Clinic are now incorporated as part of the experience for the fourth year medical students.

Six one-hour lectures and an examination in the form of a problem are given at the beginning of each quarter year to the group of students (18 to 25) then entering their out-patient service. During the quarter, the students in groups of two spend three mornings (a total of nine hours) in the Nutrition Clinic where, under the supervision of the dietitian, they give diet instruction to patients. At the end of the quarter, two grades for each student are submitted to the medical school, one based on the examination, and one on the student's ability to instruct patients. This combination of theory immediately applied to practice has produced far greater interest than was anticipated. The students realize that intelligent dietary treatment is not mere rote. They become aware of their background in the fundamental principles of nutrition, and thus develop self-confidence in their own ability to give adequate dietary instruction.

The six one-hour lectures which present the basis of adequate nutrition and the changes involved in therapeutic

[1] The author wishes to acknowledge her indebtedness to Frances Stern of the Boston Dispensary Food Clinic for many of the ideas expressed in this article.

diets, are primarily designed to express these factors in terms of household measures and in foods which the patient can afford. Besides this the students are introduced to other factors which may influence the patient's ability to follow a prescribed régime; for example, nationality, occupation, household routines, social status and intelligence of the patient. A short outline of the material covered by the lecture periods follows:

Outline of lectures

I. Purpose of the course; reference material. (*See* end of article for suggested references.)
Relation of food constituents to the composition of the body.
Principal food sources of nutritional constituents.
Assignment: Complete record of food intake for one week.

II. Explanation and demonstration of household measures and size of food servings.
Food composition of household measures and their equivalents in grams. (Here the students are introduced to the calculation sheets used in the Nutrition Clinic, but tables such as Waller's *Nutritive Value of Foods* are equally useful.)
Assignment: Calculation of one day's menus (the student's own food intake) for grams of protein, fat and carbohydrate; total calories; grams of calcium and phosphorus, and milligrams of iron; and checked for vitamins and acid or alkaline ash.

III. Construction of the normal diet, including the normal requirement of the food constituents for the adult and the child.
The "protective diet" as the basis for the selection of food.
Construction of a food prescription for a normal adult.
Assignment: Calculate own food prescription. Contrast own intake with food prescription and suggest ways of adjusting deficiencies if they occur.

IV. The therapeutic diet as a modification of the normal diet.
Construction of specific therapeutic diets.
Assignment: Diabetic diets and low caloric diets calculated in grams and written in household measures as a list of total food for the day and as a suggested menu plan. A brief outline of points to be emphasized when teaching the diet to a patient regarding the relation of the diet to the disorder is to be included.
Example. Diabetic diets
(1) P. 60, F. 60, C. 120: carbohydrate one-third for each meal.
(2) P. 70, F. 60, C. 150: make the necessary adjustments on the first diet order.
(3) P. 90, F. 80, C. 300: Adjust carbohydrate two-fifths for breakfast, one-fifth for lunch, and two-fifths for supper.
Example. Obesity diets
(1) P. 80, F. low, C. low: 1200 Calories
(2) P. 60, F. 35, C. low: 1000 Calories
(3) P. 100, F. 50, C. 100: 1250 Calories, one slice of bread per day; no carbohydrates over 12%.

V. Discussion of therapeutic diets, continued.
Assignment: The students are assigned to individual diet problems from actual case histories. (*See* detailed example of this type of assignment under VII.) The student may use his own judgment as to the best solution of his particular problem. The following is customary:

(1) Calculation of food prescription in grams.
(2) Diet for the patient in household measures; total food for the day, meal plan and sample menu.
(3) Instructions for the patient other than diet which will enable him to follow the régime.
(4) Outline of anticipated dietary procedure on subsequent visits.

VI. Foods of the foreign born, reviewed in terms of foodstuffs and contrasted with the protective diet as a means of evaluating the adequacy of the foreign dietaries.
Food cost in relation to nutritive constituents.
The influence of environmental factors on dietary habits.
Assignment: The student may choose any type of therapeutic diet he wishes, and he then writes complete instructions for a patient. He rewrites these instructions in terms of the food habits of a foreign nationality.

VII. Examination. For the purpose of interest, both an assignment and a student's solution of the problem are given.
Problem:
Age: 35 years
Sex: Male
Height: 178 cm.
Weight: 68 kgm.
Ideal weight for height and age: 75 kgm.
Nationality: Danish
Occupation: Elevator operator
Clinic rating: B (Patient pays $1.00 for each clinic visit).
Diagnosis: Diabetes and gastric ulcer.
Diet order: Gastric soft diet of P. 90, F. 80, C. 250.
Other factors: Takes 10 units of regular insulin and 20 units of protamine insulin before breakfast; working hours from 11 A.M. to 9 P.M.; night meal in restaurant.
Solution:
Calculation of the diet

Food	Amount	gm. P.	F.	C.
Egg	1	7	5	
Meat, fish or fowl	90 gm.	18	15	
Milk	1200 c.c.	36	48	60
Butter	15 gm.		13	
Bread, refined	120 gm.	12	1	60
Cereal, refined	20 gm.	2		16
Potato	100 gm.	3		18
Vegetable, 3%	100 gm.	2		3
Vegetable, 9%	100 gm.	3		9
Fruit, fresh	200 gm.	2		24
Fruit, stewed	100 gm.	1		30
Uneeda crackers	6	6		30
Total		92	82	250

Instructions for the patient:
Food for the day (*see* meal plan, also).
One egg, boiled or poached, *or* one ounce of cream cheese.

One serving of about three ounces of tender chopped beef, lamb or liver; *or* an equal amount of fish, cod, halibut, haddock, flounder, filet, canned tuna or salmon (no bones or skins in the latter); *or* an equal amount of tender chicken without skin or tendons. These foods may be boiled, broiled or roasted.
Five glasses milk (eight-ounce glass).
Three teaspoons butter, about one and one-half pats.
Four slices white bread, plain or toasted.
Six Uneeda crackers.
Half a cup of cooked cereal: Ralston's super-farina, Cream of Wheat, farina or rice.
One small potato, baked or boiled; *or* two tablespoons rice or noodles.
One four-ounce glass tomato juice.
Two four-ounce glasses fruit juice such as orange, pineapple, grapefruit; marked *unsweetened* if canned.
One serving, about two tablespoons, cooked and strained carrots, peas, squash or beets.
One serving cooked fruit, strained or mashed; add no sugar in cooking; use apple sauce, baked apple (without skins), pears, apricots, or prunes.
Beverages: may have Postum and water.
Seasonings: salt used sparingly; saccharine for sweetening.

Suggested meal plan

Breakfast, about 10 A.M.
- ½ cup cereal, *see* list
- 1 four-ounce glass fruit juice
- 2 slices white bread
- 1 teaspoon butter
- 1 glass milk, for cereal and beverage

Nourishment, 12 noon
- 1 glass milk
- 2 Uneeda crackers

101 gm. C.

Luncheon, about 2 P.M.
- 1 serving tender meat, fish *or* poultry
- 1 serving cooked and strained vegetable
- 1 small potato
- 1 teaspoon butter
- 1 four-ounce glass tomato juice
- 1 serving cooked and strained fruit

Nourishment, about 4 P.M.
- 1 glass milk
- 2 Uneeda crackers

75 gm. C.

Sample menu for a day

Breakfast
- ½ cup Ralston super-farina with
- ½ glass milk
- 1 four-ounce glass orange juice
- 2 slices toast
- ½ pat butter
- Postum with ½ glass milk

Nourishment, 12 noon
- 1 glass milk
- 2 Uneeda crackers

Luncheon, about 2 P.M.
- 1 serving broiled filet of fish
- 2 tablespoons strained peas
- 1 small baked potato
- 1 teaspoon butter
- 1 four-ounce glass tomato juice
- 1 small baked apple, (do not eat skin), without sugar

Nourishment, about 4 P.M.
- 1 glass milk
- 2 Uneeda crackers

Suggested meal plan	*Sample menu for a day*
Supper, in restaurant, about 6:30 P.M.	Supper
1 egg, boiled or poached	1 soft cooked egg
2 slices white bread	2 slices toast
1 teaspoon butter	½ pat butter
1 glass milk	1 glass milk
1 four-ounce glass fruit juice	1 four-ounce glass pineapple juice
Nourishment, before bed	Nourishment, about 11 P.M.
1 glass milk	1 glass milk
2 Uneeda crackers	2 Uneeda crackers
75 gm. C.	

Additional written instructions to the patient:

One ounce of cream cheese may be substituted for one egg.

A box of Uneeda biscuits can be kept in your locker at work, and you can buy a pint of milk on your way to work each day. This will do for between meal nourishments while you are at work. Take a few minutes off to have a glass of milk and two Uneeda crackers at the times indicated. On your day off you can interchange night and noon meal if you wish. You must, however, eat *all* the food prescribed, and at the times indicated.

Note: The nationality is no problem here, as the Danes are fond of dairy products and fish. The patient should be warned regarding the condiments usually used by this nationality.

The relation of his diet to his complicated disorder of diabetes and gastric ulcer must be explained to the patient in simple terms, so that he will understand the importance of the frequent, soft feedings of specified amounts of food. The diet is low in iron and in vitamin B. Food or medications supplying these should be added to the diet as soon as the patient is established on his régime.

As has been previously stated, the course is given to the senior medical students the first three weeks of each quarter of the school year, and is followed by supervised practice in the Nutrition Clinic. This plan does not provide for any nutrition instruction in the student's third year, much of which is spent on the wards of the hospital. At present we are attempting to supply some information in regard to normal and therapeutic diets by giving two lectures to this group of students. Whether it would be better to move the lectures now given in the fourth year to the third year, and give two review lectures in the fourth year preceding the Nutrition Clinic practice, is still a question.

An indirect and unexpected result of the nutrition awareness of the medical students, following their work in the Nutrition Clinic, has been the effect on the diet orders of the clinic staff physicians. The latter are inclined to order diets more or less routinely, and seldom consider the many factors other than food which influence the patient, and which often determine his ability to follow the dietary prescription. The students have learned the necessity for a flexible diet order, which allows for adjustment to the patient's medical and environmental problems. They discuss this with the staff of their various outpatient services, assuring them of the dietitian's desire to cooperate with them

in carrying out the necessary treatment for the patient, and at the same time showing them how a diet order which allows for some interpretation is the key to an intelligent solution of their mutual problem. Thus, the nutrition teaching of the medical students has not only given them some understanding of food in relation to health and disease, but has in other ways proved its own reward.

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TEACHING NUTRITION TO DENTAL INTERNS

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GROWTH and developmental processes of nutrition service in public health have been reviewed in a recent issue of this JOURNAL (1). It can now be said that this service approaches its coming of age. To a profession still young, one principle seems clear—that the nutritionist cannot hope to reach at first hand all the people who can benefit by her knowledge. As an adjunct to the direct service which she gives, she must effectively coordinate her program with that of her co-workers in public health so that sound nutrition teaching for the public at large results. We are repeatedly told that far-reaching benefits will follow widespread application of the nutrition knowledge which we now possess. Physicians, nurses, teachers, and social workers must—and do—help vitally in this application.

Among these "middlemen" is the dentist. Whatever opinion he may privately hold, he is forced to dispense a certain amount of nutrition information, for advertisers have convinced his patients that diet has something or other to do with teeth. A state of confusion exists, to be sure, in regard to the cause and control of dental caries. In the dental profession are strong advocates of the influence of such factors as the presence or absence of bacillus acidophilus, the chemical or physical properties of saliva, heredity, and the endocrine glands. Yet probably few dentists would fail to agree that during the developmental periods of the teeth at least, good nutrition plays a major rôle in dental health. Dr. C. Willard Camalier, president of the American Dental Association, said at the 1938 meeting of the Massachusetts Dental Society, "Dental health for the youth of America is the basis of our national program. By cooperating with other health agencies, we are trying to see that expectant mothers and children are provided with the right diets for sound teeth."

In 1935, the Curriculum Survey Committee of the American Association of Dental Schools recognized the dentist's need for a knowledge of nutrition in the following paragraph (2):

> It is becoming more and more apparent that many of the diseases and abnormalities which occur in the oral region are directly or indirectly related to the nutritional status of the individual. This concept has brought nutritional considerations very much into the forefront in the prevention and treatment of dental disorders. It has also made it obligatory that the dentist have at least a general knowledge of the principles of nutrition in order that he may determine to what extent nutritional deficiencies may be responsible for local disturbances in the mouth and suggest to the patient rational corrective measures. This is not to say that the dentist should be qualified as, or presume to be, an expert nutritionist, nor that he should prescribe definite dietary programmes for his patients, but he should have a working knowledge of the general principles involved in order that he may recognize outstanding dietary faults and, in conjunc-

tion with the physician or pediatrician, suggest a type of diet that will correct the faults.

This same committee recommended a course including sixteen hours of class and twelve hours of demonstration and laboratory exercises. Nutrition instruction is expanding in an increasingly large number of dental schools, and opportunity for clinical study is provided in a few. However, in a questionnaire recently answered by twenty-three interns representing twenty-two Class A dental schools in seventeen states and Canada, it was found that only nine had been given a separate course in nutrition. The remaining fourteen indicated that although nutrition subject matter was included in such courses as physiological chemistry, pediodontia, and dental pathology, very little training of a specific nature was provided.

With one nutritionist on the staff for several years and another recently added, it has been possible to supplement the nutrition training of the dentists who come to the Forsyth Dental Infirmary for Children for eleven months of postgraduate work. The trustees and Dr. Percy R. Howe, the director of the Infirmary, take pride in not merely providing further training in technical procedures but in stimulating a concept of dentistry as a biological science and a public health service. Through group instruction and assigned periods in the various departments of the Infirmary, "the dentist, who is restricted from the mechanical nature of his performance," is encouraged "to look over the walls imposed by his work into the broader fields of biology" (3). To these young dentists the nutrition department offers opportunities for learning through the media of class hours, clinic participation, case studies, a bulletin board, and the conferences and experiences which are part and parcel of busy days of cooperative effort for the health of many children. Each of these media will be discussed in turn.

Nutrition has been given a prominent place in the lecture hours, a survey of this year's program indicating that approximately one-fourth of the time has been spent on some phase of the subject. An admirable introduction for the nutritionist's class is provided in two talks by Dr. Howe on his dental nutrition research and one by Dr. George R. Minot, Nobel Laureate in Medicine, on latent deficiency states, the "twilight zone" of nutrition.

The nutritionist's class hours are informal, with frequent questions and comments from the dentists. Principles are reviewed mainly through a consideration of the nutrition requirements during the various periods of calcification of the teeth (pregnancy, infancy, childhood, adolescence), including good nutrition practices for the family as a whole. Much of the teaching is based upon case material in the active files of the Nutrition Department, as well as the histories and problems of children referred by members of the class. Warm discussion arises over the most helpful recommendations for a five-year-old child whose card carries the intern's notation "rampant caries" and whose family is on relief. Simple graphic material such as the calcium equivalent of one glass of milk or a set-up of a day's meals for the patient under discussion is used with each talk. Most of the teaching is an attempt to bring nutrition knowledge out of the realm of

the purely academic into its relationship to everyday dental problems.

Experience has shown that detailed calculations of patients' food intakes are not feasible for the average dental practitioner. Few have either the time or the technical skill necessary to carry the process through accurately and to evaluate the results judiciously. Therefore, although upon request certain interns have been guided in dietary calculations, it has seemed most practical to limit group instruction to the evaluation of diet histories in terms of average daily servings of various food groups. Other workers have recommended a similar technique for pediatric practice (4).

Clinic observation supplements the class work, interns being assigned in rotation on a weekly basis. During mornings spent in the clinic the dentist sees children from two to thirteen years old, a cross section of the Infirmary patients. Some with excellent mouth conditions have come because their parents wish to take full advantage of the health service available and appreciate the value of periodic medical examinations and nutrition conferences. Others have been referred by the interns themselves because of pronounced caries or other pathological oral states. A third group of patients report regularly as part of their treatment in the Orthodontic Department.

The intern is encouraged to feel that he is an integral part of these conferences, and frequently his very presence is an asset. His title of "doctor" and his obvious interest in the situation at hand help to invest the nutritionist with an aura of importance and strengthen the mother and child's respect for her teaching. The dentist becomes more alive to the whole child in this clinic as he studies the mouth condition in relation to the family history and background and the physician's appraisal of the health status. He begins to appreciate some of the painstaking techniques involved in securing an accurate nutrition history and in adapting nutrition teaching to the needs of the individual mother and child, even carrying the responsibility of some of the teaching himself during successive visits. He sees the value of visual aids for both children and adults and has the opportunity to secure and develop for his own use some which he likes best. He gains an insight into many problems of child guidance and into the origin of a gamut of undesirable attitudes ranging from food fussiness to paralyzing fear of the dentist's chair. He realizes that good nutrition is as dependent upon correction of physical defects, adequate sleep and rest, healthful recreation, and successful family relationships, as upon food itself. He discovers that the neatly dressed, intelligent woman, a counterpart of his own private patient of the future, frequently is not feeding her family with wisdom and judgment. He also sees the harvest—the improved mouth conditions of patients who have attended the clinic for several years. It becomes clear that nutrition supervision of one child or two is in reality family teaching which permeates the home. Thus the training of the intern is a most important by-product of this clinic which is primarily to provide nutrition guidance for children and parents.

Another popular teaching medium is the nutrition bulletin board which is maintained in the dental clinic itself. Its purpose is threefold: to provide

nutrition reading for spare moments; to familiarize the dentist with reliable sources of information on nutrition and closely allied subjects; and to offer him the opportunity of assembling a "library" which will stand him in good stead when he opens his office in the succeeding year. Probably the two requirements for such a device are that it be accessible and that the material be changed frequently. This bulletin board is in the most readily accessible position of all, on the wall of the supply booth where the intern goes a dozen or more times each day for instruments and materials. On the board and its attached rack are kept current journals and reprints and publications from sources such as the League of Nations, Children's Bureau, U. S. Department of Agriculture, New York Association for Improving the Condition of the Poor, Philadelphia Child Health Society, Merrill Palmer School, and Massachusetts Department of Public Health. During the weeks of the nutritionist's class talks, material relevant to the subjects discussed is kept available, a procedure which is followed as far as possible with nutrition talks by visiting lecturers. At other times material is classified according to subject matter or source. Such topics as family food at low cost, racial dietaries, food fads, weight control, effects of processing on the vitamin content of vegetables and fruits, and dental health education programs in the schools have been featured this year (1937–1938). It is a simple matter for the worker at the supply booth to receive orders for material during each two-week period and later to distribute it and collect the cost from each dentist. The intern who has secured these pamphlets values them more highly because their possession represents initiative and a small money outlay on his part. Tabulation of the orders from this year's class indicates special interest in material on nutrition in pregnancy and childhood and on family food guides.

Whenever a department functions normally it becomes headquarters for advice in its particular field. So the latchstring is out for the intern who drops in to ask how he can best gain ten pounds, or what he can tell his sister in Mississippi who writes that her son will not eat, or whether he is purchasing enough butter for himself and his apartment mates, or when he can begin to give his baby baked potato.

The questionnaire to which previous reference has been made represents a recent attempt at the end of the year to evaluate the department's work with the interns. Three who were asked to serve as a consultant committee gave invaluable suggestions for the formulation and presentation of the questions, which were distributed following an announcement on the bulletin board that frank and thoughtful anonymous answers would "help us in our work." One hundred per cent returns were received and seemed on the whole remarkably sincere. It is impossible to include here a full report, but the replies to the question "Has your attitude toward nutrition changed this year? If so, how?" seem of particular significance; 83 per cent answered "Yes," 13 per cent "No," and 4 per cent "To some extent." The following additional comments are representative of the affirmative replies: "I had a hazy idea of the relation of nutrition to the dental apparatus. Here I have been able actually to see concrete

examples and to compare theory with practice." "The work has been more constructive and specific in nature than the material presented in our college course." "After seeing some of the results which can be obtained, I think nutrition should be given a more prominent place by the dental profession." "I am more impressed than ever before with the effect of nutrition on general health and on the bone and mucosa."

In addition to the work with the interns, many external demands are made. The department is asked to prepare a reading list for a dentists' study club, to help with a talk for a regional Boy Scout conference, to suggest posters for a pediodontist's office, and even to tutor a dentist in nutrition. The nutrition work of the Infirmary has been represented several times in the health exhibits of the American Dental Association convention. At dental society meetings in Massachusetts and other states the nutritionists teach through exhibits and table clinics and participate in postgraduate courses. A two weeks' institute for about twenty dentists sent by the Kellogg Foundation of Michigan and by the Public Health Service of North Carolina is held annually at the Infirmary. In addition to the two halfdays alloted to the Nutrition Department for lectures and discussions, these dentists spend at least part of one morning in the clinic. Schedule complications occur perennially when they ask if they may return with their wives!

Probably because children's dentistry is further advanced in the United States than in other countries, the Infirmary receives many foreign dentists as guests. Some can stay only a few hours, others several weeks or months. To many the work of the nutritionist is entirely unknown. An attempt is made to give each one at least a glimpse of the department and to plan a more extensive program for those whose time allows. Observation of the nutrition services of several other agencies has recently been included for visitors from South Africa and China, both in public health service. As a result of her visit, a Danish dentist has decided to do graduate study in nutrition as part of her preparation for limiting her practice to expectant mothers and children.

Experience, then, offers convincing evidence that the dentist is receptive and responsive to nutrition teaching. In public health, notably in the maternal and child hygiene programs of state departments, the dentist and the nutritionist work shoulder to shoulder. A few dentists in private practice utilize routinely the services of a specialist to improve the dietary habits of their patients. How can the nutritionist who has neither of these opportunities further a relationship which holds great value for both professions? Briefly, she can do her own job, whatever it may be, so well that her accomplishments are impressive. By various means she can indicate the decided contribution to dental health which she is equipped to make and can help the dentist to understand how she may most effectively assist him. She can, whenever possible, provide facilities for field experience in either undergraduate or graduate training. She can foster relationship between dental societies and her own professional organizations.

As her individual and group work with dentists increases, what should she teach? Only a few suggestions can be

made here but the possibilities are seemingly endless. Often the dentist who is unprepared to give detailed advice needs to be reminded of the far-reaching effects of general counsel. Lydia Roberts says, "If the dentist can do nothing more than to reiterate, 'Drink milk, eat generously of fruits and vegetables, limit sweets,' making the relation between these practices and good teeth impressive, he will be doing an unquestionable nutrition service as well as one in preventive dentistry" (5). The nutritionist can teach forcefully that such reiteration is of far greater benefit to the majority of patients than the administration of mineral and vitamin concentrates. She can guide the dentist to authentic sources of nutrition information, for his faith in publications of purely commercial origin is sometimes too great. A record of questions asked the writer during recent "refresher" courses for county societies in a neighboring state shows that 74 per cent were concerned with everyday aspects of the choice and use of foods—such practical questions as "How can adult patients who dislike milk be persuaded to drink it?," and "What home-grown vegetables can be used as cheap substitutes for citrus fruits?" These inquiries are probably indicative of the kind of help which this profession wants most.

Dr. George R. Minot has said, "Man's future depends very largely upon what he decides to eat." The joint efforts of the dentist and nutritionist will materially affect that decision.

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COMMUNITY HEALTH EDUCATION[1]

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HEALTH education is a primary function of the Buffalo Tuberculosis Association of Erie County. The association believes that a community is better able to control tuberculosis and to solve other public health problems when it is well informed in the principles of healthful living and disease prevention. To demonstrate the value of needed programs in nutrition or in health education, tuberculosis associations may have on their staffs workers trained in these fields.

The association's educational program includes work with groups and agencies, as well as individuals in the community. One phase of this work is concerned with the development of a health teaching program in rural schools of Erie County. Although this program is centered in the schools, it also extends into the community, for the cooperation of parents and community groups is necessary to insure a program of healthful living through the 24-hour day.

Within a relatively short period, workers in nutrition research have made available findings of great potential significance to the well-being of every individual. These findings are valuable, however, only to the extent that they are known and applied by the individual. The problem of bringing this information to individuals and groups in the community so that it will function in everyday living, challenges the public health worker in nutrition and in health education. In other words, the gap must be bridged between available knowledge and everyday practice.

A community program can be made more effective when the worker knows the individuals or groups with whom he is working. Just as a teacher makes a study of the health problems and interests of the individual pupil in order to make the teaching program vital, so, too, should the health needs of individuals in a community be the basis for a sound and continuous educational program.

What are some of the methods by which needs in nutrition may be found?

1. The health examination and medical study are the means of finding individual nutrition problems, such as malnutrition, diseases due to dietary deficiencies or dental defects. The nutritionist's assistance is valuable in solving these problems. An analysis of the kinds of nutrition deficiencies may indicate needs that are relatively common in a group, school or community and, therefore, the means of preventing these deficiencies should be included in an educational program.

2. Research work or surveys on the eating habits of a large group may give information important in planning a program. For instance, the "Survey of Food Consumption of Families at Different Socio-Economic Levels," directed by the Bureau of Home Economics, is typical of a study made on a large scale (1). Dietary habits peculiar to different sections of the country were revealed in this study. It was noted

[1] Presented before the New York State Dietetic Association, Syracuse, New York, May 6, 1938.

that low income was the reason for poor diets in some families, while in many others dietaries could be improved without increased expenditure of money. This study indicates that some families need help in improving their diet or in rebudgeting their income to allow more for food.

3. Dietary problems found in different regions of the country require special attention from local workers. The low iodine content of foods grown in regions adjacent to the Great Lakes and elsewhere; the pellagra-producing diet in sections of the South; or the insufficient use of certain foods in the diet, for instance, milk and vegetables so often found lacking in some of our rural sections, are typical problems that should be given greater consideration in certain areas.

4. The food habits of a group may be observed during the noon hour at school. The data secured by noting the type of lunches selected in the school cafeteria may be used as the background for an educational program with the pupils, as well as with the parents in the community.

5. Questionnaires on eating habits, or score cards on which the individual can evaluate his own health habits, may be distributed. If the information is collected for a particular day, usually the day the questionnaire is given, and if the person who answers the questionnaire is not asked to sign his name, more accurate results are likely to be secured.

6. The questions asked by individuals may indicate real problems or real needs to an alert worker. Such questions may be used as the basis for a study group or for a unit of teaching in school. They may also suggest the theme for an exhibit or a radio talk.

Through such methods as these, and an inquiring attitude, pertinent problems in nutrition will come to the worker's attention. The community program should be directed toward helping individuals to solve these problems. In nutrition education, efforts are made to secure desirable changes in the individual's understanding of food, in his attitudes concerning it, and, most important of all, in his daily habits of food selection and eating.

After the needs of the group are known, information should be given in such a way that the individual can apply it to his own daily practices. Shepard (2) cautions health educators as follows: "We have usually failed to distinguish between health education and health information. It is one thing to inform people of health facts; another to have them modify their conduct on the basis of this information." He also says, "We have tended to confuse health publicity, propaganda, and service with health education. Overemphasis on them may actually impede true education. Too much or poorly directed propaganda often repels the intended convert. Providing health service such as school health examinations and diphtheria immunizations does not of itself lead people thenceforth to seek these same services on their own initiative." The same may be said with regard to the services the dietitian or nutritionist has to offer. Every effort should be made toward making these services educational in nature.

If we know the national or racial characteristics of the groups we are assisting, it will be helpful in deciding how to present the program. Galdston (3) aptly illustrated this when he said "Bread is the staff of life and yet how different the breadstick of the Italian from the pancake loaf of the Armenian.

And though each is bread, still will the one be eschewed in preferment to the other—one's own bread. It is for us to be mindful of men's preferments in instruction as in bread."

Individual factors that must be considered in any educational program include: age, occupation, economic status, education, nationality background, and social customs. It is necessary, for instance, to consider the adjustments that must be made in dietaries for the various age groups. Emphasis in teaching will also vary with different age groups. With younger children, the development of desirable attitudes toward food is stressed, so that good eating habits will be reinforced or their establishment facilitated in the home. Knowledge of nutrition, however, becomes increasingly important as pupils grow older, or when working with adults, for they want to know the reasons for health practices.

Now let us turn to the individual on whom our educational efforts are focused. The relationship between an adequate diet and such assets as vitality or a good complexion may be used to interest and motivate boys and girls in better eating habits. A mother who is concerned with the family's health, as well as a balanced budget, will want to know more about nutrition if this knowledge will enable her to do a better job in feeding her family. Interest in health, so widespread, is a very great asset to workers in this field.

What are the media through which health education may be made effective? In each community, opportunities for developing a program will differ. Some of the methods for reaching individuals and groups are as follows:

1. By means of staff education, the nutritionist is able, eventually, to reach large groups of people. An important part of our health program with teachers has been the teaching of fundamentals in nutrition. Through group discussions and by supplying material in reply to demands, the teachers are able to give their pupils sounder instruction. In addition to this, the teachers need assistance in solving the candy problem, and in planning suitable types of midmorning and other school lunches.

Nutrition institutes may be used as training courses for workers in the field of nursing, social welfare, public health, education, and other professional groups. These institutes or training centers may extend over a period of one to two days or longer. Nutritionists in the state Department of Health have conducted several of these institutes for public health nurses in Buffalo. The nurses, in turn, are then able to extend the instruction to a large clientele.

2. Talks given to parents, teachers, clubs and various groups are usually helpful in themselves and are frequently the means of stimulating groups to secure further help along specific lines, such as planning menus for the family group, feeding the preschool child or packing a lunch for the rural child. A different approach often lends new interest to the same subject and there are an endless number of approaches to this important subject. One on the adequate diet may be suggested, for instance, through a discussion of picnics in spring, food preservation in summer, or hot lunches in winter. A discussion on milk, vegetables, grains, food storage and similar topics, may also lead to a study of the dietary essentials.

3. The study group, such as those organized through college extension

departments, parent-teacher associations, adult education units, or home bureau groups, provides excellent opportunities to do a more continuous and thorough piece of work. For instance, a representative Central Teachers Committee from one supervisory district in Erie County has met once a month during the past five school years to discuss health teaching problems. Membership on this committee, which changes every year, includes two teachers from each of the five towns in the district. These teachers in turn report the discussion at their town meeting.

4. Visual aids, including slides, motion pictures, and exhibits, are assuming an increasingly important place in educational programs. Knowledge can be more readily acquired through the visualization of a process or an activity. Among other types of visual aids helpful in an educational program in either the school or community, are photographs of real situations, charts which tell a story, construction of models, visits to observe an interesting piece of work, and demonstrations.

Our hot lunch exhibit is typical of the manner in which an exhibit can be used. It was prepared primarily as a county fair exhibit to be housed in the educational building with school exhibits. The necessary equipment for preparing a hot lunch was assembled in a homemade cabinet. Several ways of making a hot lunch available were shown. Packed lunches with supplementary hot dishes were prepared daily for the exhibit. Large drawings, picturing ideal conditions for the eating of the noon lunch, were placed in the background. Information on hot lunches was briefly summarized in leaflet form and distributed to those interested.

Since an exhibit usually stimulates questions, whenever possible a trained worker was in attendance to give desired information. Fortunately the hot lunch exhibit is easily handled; thus it can be readily shown at teachers' meetings, to groups of parents, to classes in a teacher-training institution and at community gatherings. The exhibit not only aroused interest in hot lunches, but actually showed how the hot lunch could be organized in a rural school.

No visual aid, however, can compare in effectiveness to lessons in nutrition learned every day through real situations. The school lunchroom is one of these situations. Whether the school is large or small, the noon hour can make outstanding contributions to the physical and social development of the child. Teachers and parents often need help in organizing the noon hour to include a time for washing hands and the serving of a nutritious school lunch to be eaten in a pleasant environment. Rest periods after lunch, so important to child health, can also be arranged. The worker trained in home economics and cafeteria management assumes an important rôle in such lunchroom management. It is only through careful planning and guidance that the health and educational values of the noon hour can be fully realized.

5. Printed materials, as leaflets and bulletins, should not only be in accord with scientifically true facts but they should be well written and attractive to the eye. Since materials are costly, discrimination should be shown in the distribution.

A Child Health Workshop at our association headquarters, in which books, bulletins and various educational

aids are assembled, provides a ready source of authentic materials which may be used there or on a loan basis. This room also serves as a place for conferences, so important in a community health program.

6. The radio is another means for reaching the community. Almost every home has a radio. Many health agencies have made great progress in developing series of instructive health broadcasts. In a study (4) made through the questionnaire method, it was found that plays were the type of health broadcast preferred. Questions and answers, talks and dialogues were next in preference. To insure a larger and more interested audience, it might be worthwhile to work out some arrangement whereby broadcasts could be correlated with topics that study groups or organizations are considering in their programs.

7. The newspaper is read daily in a large number of homes in the community. Since developments in nutrition are items of news value, editors are usually generous with space. To insure regularity of newspaper articles, a definite plan for news releases can often be worked out with the editor.

Through these and other methods, the community worker in nutrition or in health education interprets the available knowledge of nutrition to individuals and groups. A community program is made vital when built around the needs of individuals. Every effort should be directed toward making our knowledge of nutrition function in everyday living.

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TEACHING ADULT GROUPS IN THE CLINIC

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OLD as the hills, and highly respected, is the individual teaching of patients which is based upon the assumption that each patient is different from his fellow. Yet the most amazing thing about any human being is his likeness to all other human beings. The common aims of all peoples, the world over, are the same—to feed, clothe, and shelter themselves. Is it not reasonable, therefore, to suppose that whenever a group of people come together where the problem of solving some phase of these elemental needs is similar, that group teaching is indicated?

The presentation to a group of patients of fundamental practices in the treatment of a specific disease has been used in the food clinic of the Johns Hopkins Hospital for about five years. The unity of the patients' need makes it effective. Modern values of time make it a demand. The results confirm its use.

To the clinic come people from all walks of life; some are the "haves", many more are the "have-nots"; some are college graduates, others are illiterate. But strangely assorted as these people may be, if their diet needs are the same they are put in the same class. At the present time instruction is given in the dental, the maternity, and the diabetic clinics. The groups number anywhere from fifteen to forty people, and the lesson time ranges from one-half to one hour. No set method is followed: sometimes there is a lecture, more often the period is given over to discussion, but always illustrative material is used. Wax food models are plentiful, charts on any variety of subjects are available, and patients even volunteer themselves as "illustrations in point." However, no matter what method is used, it is assumed that every patient is intelligent, even though he may be illiterate, and that every patient is ignorant of the subject matter to be taught. These assumptions are especially important from the instructor's point of view. Without the belief that the patients are capable of understanding the subject matter, instruction itself is pointless. Herein lies the necessity for *simple* presentation. And without the assumption that all patients are ignorant of the subject matter, it will be taken for granted that certain basic facts are common knowledge when in reality they are not, thereby rendering the explanations of related procedures useless.

At this point it is well to note the fundamental qualifications for the instructor. A prime requisite is adequate knowledge of her subject matter so that she cannot be confused by any questions which may be brought up. She must have the sincere desire and the ability to present the subject matter to the patients simply, and to make solutions of the problems clear to all. Her explanations should be so worthwhile that the patients are stimulated to do their best; thus the lesson period may become a tonic to their will power as well as a basis for intelligent procedure. Above all, she needs a sense of humor.

The effectiveness of any teaching depends upon well-defined aims for each lesson and skillful presentation of the subject matter, for the burden of the education of the patient lies squarely upon the shoulders of the instructor. The only necessary contribution to the class period from the patient is sufficient intelligence to understand extremely simple explanations. A "Barkis is willin'" attitude is hoped for, but if it is lacking then it must be developed by the class instructor; however, in hospital work ninety per cent of the patients are eager for any instruction they may receive.

There are five aims to be achieved in adult group teaching in a food clinic. The first two are not peculiar to this method. They are the presentation of the reasons for the diet procedure in question, and the showing of this data in logical sequence. The third purpose is to give details not stressed in individual teaching, or perhaps not even touched upon because of lack of time. However, these details are often the very things that can make a diet more palatable and consequently more easily followed, or they may prove to be matters that clear up certain points which have been stumbling blocks in the patient's chain of reasoning. Unfortunately, adequate knowledge of a subject on the part of the instructor too often blinds her to the importance of some detail that is necessary for the patient's complete understanding of the topic under discussion. Group instruction tends to eliminate such discrepancies since the many questions raised by several patients will seldom occur to any one patient. This naturally leads to the fourth reason for group instruction—that of developing the efficiency of the patient in handling his own diet by the interchange of ideas with others. Two heads are better than one: multiply this by ten, twenty, or thirty, and the value of class work stands out. Then, too, the fundamental practicality of many of the suggestions given by the patients enhances the strength of the instruction. The final aim of this method is to impress essential information upon the patient by repetition and re-emphasis.

Probably the clearest way to show the type of teaching in a food clinic is to describe a lesson. Let us take the first one in a series of seven given to diabetics. Its aim is to define the disease, diabetes, and to show why diet can control it. As illustrative material, wax models of fruits and vegetables suitable for the diabetic's diet, meats, cereals, bread, butter, and a jar of loaf sugar are put on the table in front of the class. There are also some leaflets to be distributed from the Metropolitan Life Insurance Company, showing a caged lion, a chart of the body on which the pancreas has been painted red, and a blackboard. A group of patients have assembled and are waiting for the doctors. All of them are diabetics, and some have brought their husbands, wives, or other members of their family to hear the talk, for we believe that the more people present who are associated with a patient and who understand his condition, the easier it will be for the patient. Since this is the first lesson a very brief description of the course is given, listing the topics and the hours. The group is told that the class is informal and that the instructor may be interrupted at any time. Then the talk begins in some such manner as this: "Almost every person sitting in

front of me has diabetes. Many of you have known that you have had it for some time. Can you tell me something good about it?" Surprise runs through the class, but finally a patient suggests that one "is not always sick in bed when he has it." "Exactly. And it is not contagious; no one need be afraid of you. It is not unsightly, as some skin diseases, nor is it painful when under control. So there are *some* good things about diabetes. But what *is* this disease?" Strangely enough, the patients are amazingly ignorant of their condition. It is "sugar sickness" or "something so you cannot eat sugar and starch." Often the more general the patient's education, the less knowledge he seems to have about himself. And so the instructor continues, "Well, let us see if we can't find out more about it, for the more we know, the easier it is to understand why we need to follow a diet. Will all of you put your hands under your arms? You can feel the warmth from your bodies. Now touch the bench in front of you. That is cold. If you touched a stove in which there is no fire, the stove would be cold, too; but if you touched one in which there is a fire it would be hot. In fact the simplest way to make anything hot is to burn something in it. If you want the engine of an automobile to be warm you must burn gasoline; if you want a stove to be hot you must burn something in it, as wood, gas, or oil. You just felt the warmth from your own bodies when you put your hands under your arms. You only have that warmth because *you* are burning something—and you will be burning something as long as you are alive. The benches you felt were cool because nothing was burning in them. If you have an oil stove, you put oil in it to burn. What did you put in your body to burn?" Someone answers, "The only thing I put in me is what I eat." "Yes, and that is what you burn to keep warm. Your body burns sugar. But I can hear some of you saying that you haven't eaten any sugar; that your doctor would not let you. No, of course not. But *all* the food anyone eats—meat, cereals, vegetables, anything you can name—turns into sugar, whether one is a diabetic or not." Here the class asks about foods which do not seem sweet, to which the instructor responds, "No, *all* foods turn to sugar. You have heard of the small boy who said he thought people served sour grapefruit for breakfast to pucker up his mouth so he could not eat so much. Even half a grapefruit like that is turned into two lumps of sugar after you eat it!" Models of food are shown to the class and loaf sugar is used to illustrate the quantities of sugar they yield.

Raising the chart of the body, the instructor continues, "If you are to burn anything, you have got to start it in some way, such as putting a match to it. If you are to burn the sugar which your food has turned into, you must somehow 'light' it. For this very purpose you have in your body an organ called the pancreas. You will see that it is painted red on this figure. Some people call it the sweetbread. It is the business of this organ to send out a tiny stream of liquid to 'light' the sugar which your food turned into, just as the battery of a car sends out a tiny stream of sparks to burn the gasoline in the engine.

"So far so good, but what about the diabetic? We have said all his food turns to sugar just as the food of a person

who does not have diabetes, but here's the rub! The sweetbread of the diabetic does not send out a large enough stream to burn all this sugar. One *could* say his battery is weak. He does not have enough sparks. Incidentally, the right name for these sparks which the sweetbread sends out is insulin." The instructor stops to write the word on the board. Then she draws many small circles and a few crosses. Now she explains, "This shows what happens when one has diabetes. Let us suppose that each one of you ate half a grapefruit for breakfast and that it has turned into these little grains of sugar in your body. Each of these circles is a grain of sugar. Each of these crosses is a 'spark' from your pancreas. Now I will join each 'spark' with a grain of sugar to burn it—but alas! I have several grains of sugar left over that cannot burn because there are no sparks to light them. This is what happens if one is a diabetic. There is always some sugar that does not get burned. If one did not have diabetes there would be plenty of these sparks, or insulin, and no unburnt sugar would be left over, because his 'battery' would be strong. Unburnt sugar is what makes people ill. It affects the patient's eyesight, causes coma, or makes one liable to dangerous infections. Now if one could eat *just* enough food to *just* equal the 'sparks' from his pancreas, he would be all right. For this very reason the doctor has made some tests upon each of you—such as blood tests, and urine tests; therefore he knows the right amount of food each one of you should eat, in order to be burnt by the amount of insulin in your body. Some of you have such a lazy sweetbread and the flow of insulin is so small that the doctor has to give you extra insulin. That is why some people must take insulin. Without it they could not burn enough sugar to keep alive, but if one has an adequate number of these 'sparks' he does not have to have the extra insulin. Since it is expensive and a nuisance to take, no one wants to take it if he has enough of his own to keep him well.

"I am going to give to each one of you these pictures of a caged lion. When I started this talk I told you the good things about diabetes, but it is as important as life itself that you realize the full danger of the disease. If an uncaged lion were to walk into this room, he could kill any one of you. In his cage, he is harmless to us. Diabetes is like the lion. Uncontrolled it can kill you. If you keep it controlled, you will be unharmed. It is in your power to control this lion. If you would have no unburnt sugar in your blood, measure your diet exactly as the dietitian has shown you. Perhaps you think that since this unburnt sugar is so dangerous you will eat less than you are told and be on the safe side. That idea is wrong. If your car needs ten gallons of gas to get to a certain town and you put only eight gallons in the tank, you will never reach the town. Too little food is as bad as too much. Your diet is your medicine. Pleasant medicine, too. Fruits, vegetables, meat, eggs, milk. Measure it exactly. Long life and happiness depend upon it."

Thus, in the simplest terms, and with every day examples, the lessons are presented to the group. The simple language does not bore the intelligent because the subject matter is new, and interest is always kept fresh when the topic under discussion applies directly

to the listener. For slower-witted patients, the method makes possible their understanding and there is a certain thrill of enjoyment to be derived in knowing about the formerly unknown.

But what advantages are there in this method of teaching? As we have observed it in this clinic, we have found that:

(1) Patients follow their diets more strictly than formerly because they understand the reasons for doing so.

(2) They are able to have greater variety in their menus since they know more of food values.

(3) They show more cooperation in keeping their records accurately.

(4) Much less time is needed in individual instruction.

(5) Greater gains are derived from the individual instruction as the patient has a broader background of general information. In such a manner, group teaching supplements individual teaching, saving time for the staff and enriching the knowledge of the patient.

Certain long range results are expected: better health for mothers and babies in the maternity clinic; less tooth decay in the dental clinic; more sugar-free urines and fewer admissions for uncontrolled diabetes in the diabetic clinic. In the end we hope that the "ill management of food that kills off the weak and ruins the middling" may be lessened.

OPPORTUNITIES FOR THE STUDENT MAJORING IN FOOD AND NUTRITION OR INSTITUTION ECONOMICS

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THERE is today probably no more challenging and stimulating definition of good nutrition than that of J. B. Orr (1) who describes it as "a state of well-being such that no improvement can be effected by a change in diet." Current dietary surveys and nutrition investigations reveal that we are far from that goal and that many of our people are insufficiently fed and a much larger number are badly fed. More intensive educational work in food selection and eating habits, therefore, needs to be carried on in the school and community, in hospitals and other institutions, and in fact in every organization through which the public may be reached. The demand for dietitians, nutritionists and those trained in institution economics may consequently be expected to increase as the need for nutrition information becomes more widely recognized.

Nutrition has also been defined (2) as that subject which deals with the scientific laws governing the requirements of humans of all ages for growth, maintenance, activity, reproduction, and lactation; and dietetics as that which deals with the practical application of those laws to the feeding of individuals or groups in health and in sickness. The scope of the work in these two fields is thus very wide and varied but every phase of it calls for persons soundly trained in the fundamental sciences. Students applying for admission to graduate training courses approved by the American Dietetic Association are required to graduate from an accredited college or university with the following background of training and semester hours: chemistry (including general, organic and physiological) 12–17 hours; biology (including human physiology and bacteriology) 6–13 hours; social sciences (including at least two of the following: psychology, sociology, economics) 9–12 hours; education 3 hours; food preparation (including meal planning, experimental cookery, etc.) 6–8 hours; nutrition 6–8 hours; institution management (including organization and management, institution buying, institution accounting, quantity cookery) 6–9 hours; and desirable but optional training in physics, zoology or biology, and analytical chemistry.

In addition to this training, certain personal qualifications such as executive ability, willingness to cooperate with others, patience and persistence to achieve a goal, tact and a pleasing manner, and high standards in personality and professional training are essential for workers in this field. Special additional training and qualifications, as will be shown shortly, are required for certain types of work. In the following outline of some of the opportunities and openings in this field, there is seen to be no clear-cut distinction between the dietitian, the teacher, and the administrator; many positions require a combination of the abilities of all three.

DIETITIANS

For the student wishing to become a dietitian there are three types of

graduate apprenticeships offered with the approval of the American Dietetic Association: (a) that for hospital dietitians, (b) that for dietitians in food clinics, and (c) that for dietitians planning to enter dormitory or commercial work.

To become a *hospital dietitian*, a student must have had four years of college training with a major course in food and nutrition, or institution economics, from an accredited college. She must then serve as a student dietitian in a hospital offering an approved training course. A list of these courses can be found in this JOURNAL, volume 13, page 368, 1937.

The period of training is usually for twelve months and is divided approximately as follows: one-third in general administrative duties connected with the food service for wards and private patients, staff and employees; one-third in diet therapy in kitchen, serving pantry and wards (this service includes some experience in clinical laboratories and in metabolism units); one-third in infant and child feeding, in teaching hospital patients, nurses and out-patients and in pre- and post-natal baby clinics (2).

In small hospitals, one or two dietitians may be in charge of all phases of the work described above. In large hospitals, competent dietitians with special administrative ability may come to hold positions of great responsibility since the budget of the dietary department alone may be nearly half a million dollars annually. In one hospital, the dietitian serves about five thousand meals daily, spends three hundred thousand dollars yearly for food alone, and has a staff of sixteen highly trained dietitians who aid in the care of nine dining rooms, as well as the food service of the patients (2).

The hospital dietitian who is interested in *teaching* may devote a major part of her time to the training of nurses in the principles of diet planning and in the preparation and service of foods for the sick and convalescent. The teaching dietitian or nutritionist who conducts or assists in the teaching of medical students, is found in very few institutions at present; it appears, however, that there will be a greater demand for this teaching. Dr. Nina Simmonds (3) has recently reported on the course work and method of teaching nutrition to medical students at the University of California Medical School. To succeed in this particular phase of the work, the dietitian needs to have in addition to her other training a good background in physiology and biochemistry.

The position of *food clinic dietitian* is rapidly increasing in importance and receiving wider recognition. A list of food clinics, with full-time or part-time dietitians in charge, is given in this JOURNAL for 1937, volume 13, pages 347–349, and the type of training and suitable graduate course work in this field is being worked out by a committee of the American Dietetic Association. At present, the only approved food clinic training course is that given at the Boston Dispensary under Frances Stern.

The food clinic dietitian may be a member of the hospital dietary department and serve in the out-patient clinic where she gives instruction to the out-patients in regard to their diet. She may conduct food classes for mothers in the pre-natal and maternity clinics or she may work in food clinics not attached to a hospital.

The *non-hospital dietitian* requires special administrative training to equip her for the ever-widening field of opportunity in school and commercial work. She should have four years of work in home economics in an approved college and should then have nine to twelve months' graduate training during which she gains experience in kitchens, dining rooms, food shops, food production centers and financial and purchasing departments. Approved courses for administrative dietitians in the non-hospital field are given at Florida State College, Tallahassee; University of Washington, Seattle; Women's Educational and Industrial Union, Boston; and the University of Texas, Houston. Adequate training in nutrition and dietetics is necessary and a knowledge of scientific management is essential for this work. Quindara Oliver Dodge (4), in describing the special qualifications for administrative dietitians, says that students are selected on the basis of administrative ability, adequate college training with emphasis on social and biological sciences and institution management, character, personality and personal appearance, manual dexterity and food skill, liking for people and consuming interest in the work, and superior physical health.

Training in this field may lead to a position as director of food service in school cafeterias and lunchrooms, Y.W.C.A., industrial and chain store cafeterias, restaurants and hotels, college dormitories and dining halls, private school residences and country clubs.

The *school cafeteria dietitian* (5, 6, 7) has opportunity to enter a field which is increasing in importance and in scope. In school lunchrooms and cafeterias the work may involve curative feeding for cases of malnutrition; it may serve as a preventive measure in the school health program and play a definite part in education related to good food habits. Such work calls for the executive ability of the administrator, the menu planning knowledge of the dietitian, the financial experience of the institution manager and the enthusiasm of the nutritionist who realizes to the full the importance of well-balanced meals for the growing child. Various aspects of the work in school cafeterias were discussed in this JOURNAL for February 1938 and standards for postgraduate training in lunchroom management have been described by Winning Pendergast (5).

TEACHERS

The student who has ability to teach may find scope for her talent in the more formal education work in schools and colleges as well as in the field of the teaching dietitian and the community nutritionist. The home economics departments of colleges and universities offer opportunities for the teaching of dietetics and nutrition, or institution management. Usually, college teachers hold a master's degree and frequently a doctor's degree; in any event, such positions demand one or more years beyond the bachelor's degree devoted to advanced study and research in a major subject, and hospital or field experience is also an advantage. A number of schools offer fellowships for graduate study (8). The student who holds such a fellowship may be required to devote approximately half her time to study and the other half to assisting in class or laboratory work for which she receives from three to six hundred dollars a year. The American Home Economics Association offers an-

nually the Ellen H. Richards Fellowship of six hundred and thirty dollars to students who have had some experience or who have had graduate work in foods and nutrition or other phases of home economics.

EXTENSION WORKERS

The Extension Service of the Department of Agriculture aims to carry the knowledge gained in classroom and research laboratory directly to the farm and home and to show how to apply this information in everyday living. In most state extension services there is a nutrition specialist who plans the nutrition programs and cooperates with the home demonstration agents and other workers throughout the state in selection, preservation and preparation of food for the family.

The duties of such a nutrition specialist are many and varied; she may conduct training schools for lay leaders, confer with county extension agents, initiate community meetings, give demonstrations and prepare subject matter for bulletins, exhibits and newspaper articles. Qualifications for this work usually include graduate study in nutrition and dietetics and some field experience. A specialist in the extension service often begins as a home demonstration agent and an increasing number of students entering this field have found that a year's apprenticeship as a hospital dietitian is valuable experience in preparation for this type of community work.

NUTRITION RESEARCH WORKERS

Those who are deeply interested in the fundamental principles of nutrition may wish to do research in certain phases of this subject. While the openings for research workers are limited in number, most of the state colleges employ on their agricultural experiment station staff a woman to conduct nutrition research. Industrial organizations and commercial laboratories also employ some women in research of this type. A master's degree is necessary in such a position, and a Ph.D. degree is preferable. Thorough training in the sciences of chemistry, biology, physics, physiology and mathematics, with specialized work in food and nutrition, is required. The research worker must also be able to think logically and independently, be possessed of a scientific attitude and questioning mind and be fully alert to the problems and implications concerned in her study (9).

NUTRITIONISTS IN NURSERY SCHOOLS

Those who enjoy working with children will find possible openings in the nursery schools which have been established in connection with a number of colleges and universities. The *nursery school nutritionist* must superintend the feeding of young children and the education of parents in regard to child nutrition. She should also be able to conduct special investigations in this field and supervise students who are assigned to work in the nursery school as a part of their college training.

Besides basic work in the sciences, foods, nutrition, and dietetics, the training of the nursery school nutritionist should include courses in education, child development and psychology.

PUBLIC HEALTH AND COMMUNITY NUTRITIONISTS

The nutrition student or dietitian who is interested in the social aspects of nu-

trition may become a member of the staff of some welfare organization, state department of health, department of public welfare, board of education, health center, dental infirmary, out-patient department of a hospital, food clinic, emergency relief organization, or state and federal security program. The duties of the public health and community nutritionist are many and varied, depending on the organization with which she is associated, but she frequently serves as instructor of professional and lay groups and as consultant and supervisor for her co-workers, at least in so far as nutrition is involved. The community nutritionist may prepare printed material, posters, films, lantern slides and exhibits where needed; conduct group meetings; do intensive work with individual cases; or serve as consultant in school lunchroom problems and the food and nutrition phases of health education in the public schools. A number of papers concerning the nutritionist in public health work have recently appeared in this and other professional journals (10, 11, 12, 13).

Positions in this field are not numerous at present, but it is probable that the extension of the social security program and the aroused interest in community nutrition will increase the demand for workers. Success in this field will depend on adequate training, organizing ability in subject matter, personality, initiative, adaptability, and ability to cooperate with physicians, dentists, public health workers and other professional groups, sympathy with people and their problems, and a convincing manner in presenting material. The standards of educational training required for public health and community nutritionists are now being worked out by a joint committee of the American Home Economics Association and the American Dietetic Association. Present recommendations are for a bachelor's degree from a four years' course in an accredited school of home economics with a major in (a) food and nutrition, or, (b) family economics or social science with a minor in home economics, food and nutrition. It is recommended that the training include a knowledge of economics, biology, chemistry, physiology, psychology, sociology, foods, cookery, nutrition, dietetics, budgeting, child care, health education, public health, and vital statistics (14). A few schools are now offering a graduate program in this field and one school offers a master of science degree in public health (public health nutrition) open only to students who hold the bachelor of science degree in home economics from a recognized college and who meet educational requirements for membership in the American Dietetic Association (15).

CONSULTANTS, DEMONSTRATORS, AND WRITERS

There are still a number of possible positions (16) which do not fall into any of the groups just described, in which adequate knowledge of food and nutrition is either essential or at least advantageous. Those who are interested in commercial work, food demonstration, magazine and newspaper writing, free-lance or radio work will find this to be so. However, for positions of this kind, a combination of nutrition and work in other phases of home economics is desirable, as well as specialized training in the particular subjects related to the type of work chosen. Whether she

writes, speaks or does platform demonstrating, the successful person in this field must have thorough training in speech and in English; she must be able to write and speak clearly, convincingly and dramatically; she must be news-minded, able to distinguish facts from fads and to present technical material in simple and understandable form.

The dietitian consultant to a physician or group of physicians should have a background of adequate education in the sciences of chemistry, biology and physiology, as well as hospital experience and an understanding of medical ethics, to be fitted for this work. The increasing stress laid on diet as a part of medical therapy should eventually result in more openings in this field.

And finally, the student with initiative, originality and the "will to do", and with adequate training in subject matter can create her own future job. If she can visualize the improvements in national health and well-being which could be accomplished if all were properly fed, and if she can originate new ways and means of increasing the supply, and improving the habits of selection and preparation of food for the entire population, then the opportunities for her employment in the field of food and nutrition become almost unlimited.

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WHAT SHOULD BE THE ULTIMATE AIM OF THE HOSPITAL TRAINING COURSES?

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SUCCESS in any vocational enterprise depends not alone on the knowledge at the command of the individual, but even more on his ability to interpret, adapt, and apply that knowledge appropriately and resourcefully in carrying out the various responsibilities in the chosen enterprise.

Academic preparation is largely theoretical. Acquisition of information has been the traditional aim of college education, with ability to retain knowledge the chief criterion. In post-academic undertakings, however, the chief criterion is not so much knowledge possessed as ability to *use* knowledge.

Whether the transition between these two objectives takes place during college or in a subsequent period of training, depends upon the educational requirements of the particular vocation. If the student steps from the class room directly into a job, the transition is abrupt and must be made quite independently. If there is an intervening period of training, the transition is made with assistance. In any case, the first step toward success beyond college is recognition of the need to use acquired knowledge and adjustment to it. The degree of ability to use knowledge will determine the degree of success that may be achieved.

In college the student acquires fundamental knowledge and training in the thought processes. In the hospital training course the student dietitian is given opportunity, under supervision, to gain practical experience in the application of acquired knowledge, and to broaden her background of specific information. In terms of educational requirements this is her final year; but in terms of what will be expected of her as a dietitian it is her introductory year. It is the transition period in which, for the first time, most students test their ability to use knowledge. A student does not necessarily possess the same degree of ability to use knowledge as to acquire it, and vice versa. For this reason the average grade college student sometimes makes a better dietitian than the exceptional student.

That phase of hospital training which includes lectures and seminars, important as it is, makes demands upon the student that are not essentially different from those she is expected to meet in college. It is only through opportunity for practical experience that the measure of her ability to use knowledge may be determined. The purpose of such experience is to familiarize her with the various aspects of dietary department activity and to orient her to the professional environment. From the point of view of the student's development, this is the major phase of training, to which, therefore, the balance of this paper is devoted.

To offer experience of the finest type and the widest variety that the hospital field affords is the purpose which has prompted the development of courses for student dietitians. It seems, however, that there may be a broader, more understanding point of view toward the

training program which, if generally recognized, would enable these courses to accomplish, more uniformly for the student, the purpose for which they are organized. Too often there is so much concern over teaching the routines of a specific job and developing efficiency in those things which, after all, become more or less mechanical, that the larger opportunities and even obligations in this training are overlooked.

Should not the ultimate aim of the hospital training courses be the development of judgment? Performance of the various assigned responsibilities is the medium through which the student may formulate a foundation of basic principles. Familiarity with the principles and efficiency in performance of duties are interdependent prerequisites for the development of judgment. Although it is not presumed that all students have the same capacity for developing judgment, when this is the recognized aim of training, the student's ability to use her knowledge may be developed to the highest degree of which she is inherently capable.

While judgment is commonly acknowledged to be an important individual quality, the training of students' judgment as the acknowledged aim of the training course requires a quite different emphasis. Development of judgment as the aim of the training program means the setting of the highest standard possible, for it places emphasis upon development of the student for a high grade of professional activity rather than upon perfecting her technique. It is emphasis upon development of the student for professional activity that would raise the training program for dietitians above the level of the teaching of skill in performance.

The discriminating application of knowledge to the circumstances immediately at hand is the essence of judgment. Sound judgment requires a background of specific information, understanding of the problem at hand, the principles involved, the correlation of information in its various proper relations, and ability to think clearly, objectively, and creatively, all of which are essential for the effective use of knowledge.

Professional judgment, required in carrying out the various responsibilities within a department, an organization, or within the profession as a whole, is based upon natural ability, training, and experience. It is the correlation of the theoretical, the practical, and the professional aspects of the educational process that contributes to mature judgment. The degree to which the dietitian, as a teacher, recognizes the importance of this correlation, determines her ability to transmit the proper points of view so that they may be effective in the student's later professional experience.

Some years ago, Allbutt (1), in a lecture given at King's College, London, said, "It is not so much *what* a man is taught as *how* he is taught it."

Thus, not *what* is offered, but *how* it is offered, determines whether training courses send out students skilled in performing the duties within a particular dietary department, or whether they have enabled the students, through acquiring efficiency in these duties, to formulate a basis for judgment to which all future experience will contribute. Approximately the same variety of experience is offered in all the courses. It is *how* it is offered that makes the difference in the values resulting to stu-

dents. Certain factors are inherent in student training for which conscious responsibility must be accepted if the highest aim of the course is to be achieved.

Accomplishment of the ultimate aim depends upon three major factors: attitude, the method by which practical experience is offered, and the quality of supervision given. A brief consideration of a few of the more important points in each follows.

The first factor to be considered in the development of judgment is attitude. Most students look forward to the period of hospital training with anticipation. To make the best of the opportunities offered they must maintain interested, receptive, responsive, and cooperative attitudes. Whether these favorable attitudes on the part of the student are thwarted or developed after she is launched on her training program, depends largely upon her understanding of the ultimate aim of this training period and upon the atmosphere created for her within the department. It is the serious duty of those who direct this training, in the very beginning, to transmit to the student the point of view that acquiring of skill in various duties is the means to an end, and not an end in itself.

The student should recognize early the extent to which, as a dietitian, she will be dependent upon judgment. In menu planning, employee management, organization problems, planning special diets, teaching patients, selecting equipment, and salary adjustments, the student's efficiency will depend upon her capacity for developing judgment. If she begins her training with this as the conscious objective, favorable attitudes may be maintained provided the types of experience that are of primary importance are consistently directed toward accomplishing this goal, and provided the department executive sustains her in her objective.

While the attitude of a dietary staff is important from the point of view of departmental success, it has direct bearing also upon the training course. The attitude within a department depends chiefly upon the department head. If, by her ability as a leader, her policies of administration, her understanding, and her sense of fairness, she inspires the confidence and support of her staff, she will do likewise for the student. Staff dietitians, as well, must share the point of view of the department head toward training if their part of the responsibility is to be carried out effectively. It will be pointless for the department head to discuss with students the importance of cooperation unless this is exemplified in the department. Individual students may need assistance in making one or another type of adjustment, but their attitude as a group reflects that of the department. Proper attitudes developed in their daily work are important in orienting students to the professional environment and in establishing the ideal which may determine the scope of their ability.

The second factor in the development of judgment is the method by which practical experience is offered. The foundation a student begins to build for formulating judgment depends upon the ability of her supervisors to outline for her the principles governing the important phases of departmental activity. If the student is made to understand the principles involved in the duties of

major importance, and if she is taught the routines interpretive of these principles as adapted to a specific hospital, she should be able to adapt these principles to any organization. If, however, she is taught these routines like an automatom—without understanding or correlation with the underlying principles—she does not have the fundamental basis for adapting her knowledge to different requirements.

The following steps are necessary for effective teaching: a statement of the principles underlying duties of primary importance; general application of these principles; and adaptation and correlation of these principles in the particular hospital. All three cannot be employed in the teaching of every major department activity; but there is no better example than menu planning (2) in which all three should be employed.

Every student acquires some familiarity with the principles of menu planning in college. Practice in the application of these principles may best be gained without reference to any particular hospital, but with the needs of a designated group in mind—*e.g.* private patients, staff, and so on—and the season of the year. The emphasis should be on the construction, suitability to the group, adequacy, variety, and attractiveness. Criticism of these experimental menus should be made from these points of view only. It is the ability to plan menus to meet these requirements that is of first importance. Whether a student has to plan menus for one or for several weeks is of secondary significance. Opportunity to criticize the menus of another student should be helpful.

When the student has acceptably mastered the application of the principles of menu planning for a given group, she may consider menus adapted to a particular hospital which will be illustrative of what she will be expected to do in any hospital where she may be employed. This involves, in addition, consideration of the food budget, group likes and dislikes, types of service, preparation facilities, and so on. This third step gives the student practice in the application and correlation of the factors entering into adaptation. From the point of view of her needs as a student, whether or not her menus are actually used makes relatively little difference.

These three steps in teaching menu planning cannot be consecutively followed in developing her fitness for all of her responsibilities, but the ability for sound judgment obtained by this method of teaching can be adapted to all. Such a method gives the student a background for forming independent judgment in a given situation, and through it the daily routines become the secondary phase, and are illustrative of the way in which the primary responsibilities are carried through to completion.

The third factor to be considered in the development of judgment is the quality of supervision given. This factor determines the benefit the student derives from carrying through the various responsibilities delegated to her. It is the duty of a supervisor to check the degree of accuracy and the quality of performance attained by the student. The quality of supervision, however, depends upon the ability of the supervisor to criticize constructively and discriminately.

Depending upon whether criticism is

constructive or destructive, it may modify and destroy unfavorable attitudes or create and develop harmful complexes. It may give the kind of understanding in performance of the duties assigned that builds little by little the basis for independent judgment, or it may defeat entirely the aim of the training course and its intrinsic value to the student. Constructive criticism, of course, may be unfavorable or favorable. Unfavorable criticism offered for purposes of guidance and correction is complemented and greatly strengthened by equally ready and favorable criticism when such is warranted. Indeed, the quality of supervision is proved by the keenness and understanding with which constructive criticism is offered.

Constructive criticism consists in offering an alternative when an error is pointed out. This is essential, but sufficient only for perfecting technique. If the development of judgment is to be accomplished through it, constructive criticism should be carried further. It should be concerned as well with the reasons for the alternative, if the student's understanding is to be developed. If a principle is involved it should be pointed out, and the more frequently that occasions prompting criticism can be made opportunities for the exercise of the student's judgment, the greater the value to her. Constructive criticism should also be concerned with the underlying causes of error. If a supervisor is analytical in her attitude toward students she will be sensitive to occasions when errors in themselves are secondary to the reasons why they are made. A conscientious student seldom makes repeated errors of the same general type unless she lacks understanding of her fundamental difficulty. Moreover, constructive criticism, to be of real benefit to the student, must be offered at the moment when it is pertinent. The student profits little more by criticism offered periodically in the form of a summary of her shortcomings over a period of weeks or months past, than by no criticism at all.

The development of judgment is a cumulative process to which constructive criticism is essential during the entire period of training. No single element presents such unlimited opportunities for contributing to the student's development for, as already indicated, upon it depends the effectiveness of the method of teaching. It has, also, direct bearing upon attitude, for the manner in which a student accepts criticism is usually indicative of the effort she will make to profit by it. But whether or not she maintains a favorable attitude toward criticism depends very largely upon the critic. Ability to criticize constructively and discriminately depends upon the degree to which the teacher herself possesses the qualities essential for sound judgment. To offer criticism so that the response to it may be favorable depends upon fairness, tact, and a sensitiveness to the purpose of criticism in the training program. It is seldom that criticism is not only utilized but gratefully received, when it is administered by one who possesses a combination of these abilities.

The strength of a vocational enterprise is measured by the intelligence and ability with which its younger members are equipped to meet its increasing demands. To the extent that the standards of the student training pro-

gram are based upon variety of experience, only as a foundation for a higher aim, will this training develop in students the qualities of leadership necessary to the continued advancement of dietetics on professional levels.

The development of judgment as the recognized ultimate aim of the hospital training courses calls for a new emphasis. It is this aim which would constitute an *over and above* by which these courses would fulfil more effectively and more uniformly the purpose for which they are organized.

REFERENCES

(1) ALLBUTT, T. C.: On Professional Education, London: The Macmillan Company.
(2) GILLAM, S. M.: Trends in menu-planning, J. Am. Dietet. A., 12: 306, 1936.

THE MILWAUKEE MEETING

Milwaukee in October

Milwaukee, where the West begins or vice versa, depending upon whether you are from the East or West Coast, has been well chosen for the twenty-first annual meeting of the American Dietetic Association. The metropolis of the state of Wisconsin, long famous for the interest of its people in civics and education, Milwaukee, with its modern institutions, has much to offer the visitor. Located on Lake Michigan, the city is fortunate in that much of the natural beauty of the lake front has been preserved.

Our Milwaukee hostesses have set aside time for visits to hospitals, schools, colleges and other institutions. Friday has been reserved for a day at the University of Wisconsin, located at Madison, the capital of the state. An after convention event will be a trip to the famous Mayo Clinic at Rochester, Minnesota.

Dr. Margaret Hessler Brookes, the program chairman, has naturally drawn upon the resources of the Middle West in preparing a varied and instructive program. Geography, however, has not limited the choice of speakers as you will note when you study the preliminary program which follows.

Not less interesting to us as members of the dietetic profession is the fact that many of the luncheons and dinners which will take place during the week, have been arranged by our hostesses especially to introduce famous Wisconsin food specialties.

The Middle West, with its vivid growth and ever youthful ambition, its progressive schools and colleges, noted scientists and clinicians, will offer a rich source of inspirational interest to members of the American Dietetic Association who attend the Milwaukee meeting. Along with the warm-hearted hospitality for which Milwaukee's citizens are justly famed, and Milwaukee's food, which promises to serve as a basis for another chapter in the Association's saga of eating, it is assured that all roads will point to Milwaukee in October—EDITH BARBER, *National Publicity Chairman.*

Preliminary Program

Sunday, October 9

4:00–6:00 P.M. RECEPTION AND TEA. Milwaukee Children's Hospitals, given by Board of Directors, Children's Hospital. Hostesses, Wisconsin Dietetic Association

Monday, October 10

8:30 A.M. REGISTRATION

9:00 A.M. HOUSE OF DELEGATES, Maniza Moore, presiding

10:00 A.M. OPENING GENERAL SESSION, President's Address, Lenna F. Cooper

Protamine Insulin, Edwin J. Kepler, M.D., Mayo Clinic, Rochester, Minn.

The Vitamin B Complex in Practical Nutrition, C. A. Elvehjem, Ph.D., Dept. of Agricultural Chemistry, University of Wisconsin

12:00 M. WELCOMING LUNCHEON, Nell C. Clausen, presiding

Greetings:

The Hon. Daniel W. Hoan, Mayor of Milwaukee

The Rev. Rafael C. McCarthy, S.J., President, Marquette University

Malcolm T. MacEachern, M.D., Associate Director, American College of Surgeons

125 Years of Menus, Arnold Shircliffe, Manager, Wrigley Building Restaurant, Chicago

2:00 P.M. ANNUAL BUSINESS MEETING, Lenna F. Cooper, presiding

Reports of Officers, Section and Committee Chairmen

Election of Officers

4:30 P.M. PROFESSIONAL EDUCATION SECTION Motion Pictures

6:00 REUNION DINNERS

8:00 P.M. GENERAL SESSION, Helen T. Parsons, presiding

Some Complications in Dietary Research, Professor Anton J. Carlson, Dept. of Physiology, University of Chicago

Tuesday, October 11

8:00 A.M. BREAKFAST MEETING. Heads of Home Economics Departments and Directors of Approved Training Courses, Helen S. Mitchell, presiding

8:30 A.M. COMMUNITY NUTRITION ROUND TABLE MEETING

9:00 A.M. PROFESSIONAL EDUCATION SECTION Motion Pictures

10:00 A.M. GENERAL SESSION, Anna M. Tracy, presiding

Report, School Nutrition Section, American Association of Health and Physical Education, meeting with the N. E. A., Atlanta, Ga., April, 1938, Jennie Tilt, Ph.D., Florida State College for Women

Nutrition and the Health of the School Child, Mary Swartz Rose, Ph.D., Professor of Nutrition, Teachers College, Columbia University

12 M. EXHIBITORS' LUNCHEON, Bertha Nettleton, presiding

Address, William Benton, Vice-President, University of Chicago

2:00 P.M. DIET THERAPY SECTION, Mary A. Foley, presiding

Relation of Diet to Various Forms of Bright's Disease, Francis D. Murphy, M.D., Medical Director, Milwaukee Institutions, and Dept. of Medicine, Marquette University

Committee Reports:

1. Bibliography, Leeta F. Houser, Menninger Clinic
2. Food Clinic, Sara Elkin Braun, Michael Reese Hospital
3. Allergy Recipes, Annette Mayer, Rochester Diet Kitchen
4. Adequacy of 1000 Calorie Diet, Elsie Martin, Duke University Hospital
5. Special Diet Allowances Made by Relief Agencies, Margaret Fotheringham, Buffalo, N. Y.
6. Meat Analyses, Anna E. Boller, National Live Stock and Meat Board

6:00 P.M. SPECIAL GROUP DINNERS:

School Lunchroom, Food Clinic, Public Health, Children's, State, and County Hospitals, Teaching of Nurses, Medical and Dental Students (Others who wish to arrange special groups should write to the Business Office, and such requests will be forwarded to the program chairman)

Wednesday, October 12

7:30 A.M. COLLEGE REUNION BREAKFASTS

9:00 A.M. COMMUNITY EDUCATION SECTION, Helen E. Walsh, presiding

Committee Reports:

1. The Community Nutritionist, Sophia Halsted, Dept. of Health, City of Detroit
2. Home Economics Training Schools and the Community Nutritionist, Cecilia Schuck, Purdue University
3. Minimum Qualifications for Home Economists and Nutritionists in Health and Welfare Agencies, Martha Koehne, State Dept. of Health, Ohio
4. Foreign Food Habits and Customs, Dorothy B. Hacker, Visiting Nurse Association, Detroit
5. Public Information on Nutrition, Essie Elliott, California Fruit Growers Association

ADMINISTRATION SECTION, Adeline Wood, presiding

Committee Reports:

1. Quantity Recipes
2. Comparative Studies of Quantity Consumption, Standard Foods
3. Determination of Life Expectancy, Fixed Kitchen Equipment, Emma Holloway, Pratt Institute
4. Labor Policies in Non-Profit Making Institutions: Dormitories, Grace M. Augustine, Teachers College
5. Organization of Typical Dietary Departments
6. Survey of the Dietitian and Her Job, S. Margaret Gillam, New York Hospital
7. Bibliography, Evelyn Bangert, Montefiore Hospital

10:30 A.M. GENERAL SESSION, Helen E. Walsh, presiding

The College and University Training of the Dietitian, Fern Gleiser, Ph.D., Dept. Institution Management, Iowa State College

Implications of Recent Food Consumption Study for Community Nutrition, Hazel K. Steibling, Ph.D., Bureau of Home Economics, U. S. Dept. of Agriculture

The Effect of Improvement in Institution Diets on the Nutrition of Children, Lydia J. Roberts, Ph.D., Dept. of Home Economics, University of Chicago

12:00 M. SPECIAL GROUP LUNCHEONS:

State Presidents, Anna M. Tracy, presiding

State Publicity Chairmen, Edith Barber, presiding

Editors, State Bulletins, Irene Pope Hardy, presiding

2:00 P.M. GENERAL SESSION, Adeline Wood, presiding

Quality in Quantity Production, Marie Casteen, Statler Hotels

Food Poisoning, Gail M. Dack, Ph.D., Professor, Dept. of Bacteriology and Parasitology, University of Chicago

4:00 P.M. HOUSE OF DELEGATES, Maniza Moore, presiding

7:30 P.M. ANNUAL BANQUET, Lenna F. Cooper, presiding

Paul Bunyan Tales, James J. McDonald, Madison, Wisconsin

Thursday, October 13

8:00 A.M. HOSPITAL REUNION BREAKFASTS

9:00 A.M. PROFESSIONAL EDUCATION SECTION, Helen S. Mitchell, presiding

Committee Reports:

1. Outlines for Teaching Nurses, Grace Carden, Strong Memorial Hospital
2. Dietetics for Medical Students or Interns, Methods and Content, Frances McKinnon, University of Michigan Hospital
3. Postgraduate Courses and Field Work for Dietitians, S. Margaret Gillam, New York Hospital
4. Administrative Student Dietitian Courses, Objectives and Content, Katherine Harris, Cornell University
5. Academic Advancement for Dietitians Without Degrees
   (a) Extent and Nature of Requirements, Emma L. Feeney
   (b) Types of Courses Available, Margaret Ritchie
6. Visual Education, Films of Dietary Department Activities, Catherine Koch, Children's Convalescent Home

9:30 A.M. GENERAL SESSION

An Approach to the Hospital Personnel Problem, James A. Hamilton, Superintendent, New Haven Hospital

Importance and Methods of Training Employees, Bertha Beecher, Christ Hospital

Questions and Answers, Mary de Garmo Bryan, Ph.D., presiding

12:00 M. LUNCHEON MEETING, Ada B. Lothe, presiding

Milwaukee County Commissary System, Wm. L. Coffey, Director, Milwaukee County Institutions

Addresses:

Sister Mary Albert, Director of Home Economics, Mount Mary College

Theresa Goetz, Veterans Administration Facility

Elizabeth Tonigan, Chief Counselor, Milwaukee Vocational School

Susan B. West, Director, Home Economics, Milwaukee Downer College

(This meeting will be followed by trips to Milwaukee County Institutions, Mount Mary College, Milwaukee Downer, Milwaukee Vocational School, Veterans Administration Facility)

2:00 P.M.–6:00 P.M. TRIPS

8:00 P.M. MILWAUKEE DINNER, Edith M. Barber, presiding

A New Approach to Foods, Nancy Grey, Milwaukee *Journal*

Friday, October 14

MADISON DAY TRIP (As outlined in the following program of trips)

Saturday, October 15

A DAY AT ROCHESTER (And one planned by Chicago dietitians for the few who do not go to Rochester, complete the week's program)

Program of Trips

Every day that you are in Milwaukee, there will be something of interest to see which can be a part of your program even though you may want to attend every meeting of the convention. For early arrivals on Sunday, there is to be a 1½ to 2-hour trip of general sight-seeing about Milwaukee. The price of this trip is $1.00. Late in the afternoon, from 3 until 6 P.M., there will be a tea at the Milwaukee Children's Hospital Convalescent Home. Here transportation will be provided and the means of entrance to this tea is by membership or registration card. Be sure that you have your membership or registration card with you if you wish to attend this tea on Sunday afternoon.

On Monday, the trip of the moment is the Milwaukee-Port Washington trip with dinner at the "Fish Shanty", one of Wisconsin's outstanding restaurants. It has had a remarkable growth and is built around just one idea—to serve the very best fish possible. The trip, which will take from 4:00–7:30 P.M., will cost $2.50, which includes dinner at the Shanty.

On Tuesday, there will be walking tours of the city for people who wish to arise early. These tours will be scheduled between 7 and 9 A.M. There will be sight-seeing trips in the late afternoon. These latter trips will cost $1.00. There will also be trips to the WPA

housing projects which are being carried on in Milwaukee.

Wednesday is a day of independent trips. On this day, St. Joseph's Hospital, Milwaukee Children's Hospital, Mt. Sinai Hospital, and the following school lunchrooms will be open for visitors—Cass Street, Rufus King Jr. High, Garden Homes School, and the Y.W.C.A.

Thursday, which is Milwaukee Day, will schedule the more extended Milwaukee trips. In the afternoon, there will be a choice of three trips. One takes you to Milwaukee County Institutions, with members of the Milwaukee County Hospital Staff as hostesses. The trip to the Milwaukee Vocational School is the second one, with hostesses from Milwaukee Downer College. The third trip is to the Veterans Administration Facility, with hostesses from Mount Mary College. Any one of the Thursday afternoon trips will cost $1.50.

Friday is Madison Day. Previous issues of this JOURNAL have carried advance information relative to this grand finale of the convention. Certainly a day spent in a university atmosphere with its many research interests is not to be missed. The hours of the Madison trip are from 8 A.M. to 7 P.M. and the price of this trip, $4.00. The bus trip to Madison will include a stop at the capitol and continue down University Avenue with another stop at the Wisconsin Alumni Research Foundation laboratory. The visitors will then be taken for a drive over the campus and following a carillon concert, they will gather for luncheon at Memorial Union, 12.30 P.M. Mrs. Nellie Kedzie Jones will preside at the luncheon and Miss Abby Marlatt will speak on "Then and Now".

The afternoon schedule gives a choice of three tours: (1) Hospitals (Wisconsin General and Orthopedic Hospital); (2) Dormitories and Union Kitchens; (3) Forest Products Laboratory. The final event of the day will be a four o'clock tea at the home of President and Mrs. Dykstra of the university.

For those who cannot take as long or as extended a trip as the Madison trip on Friday, a short trip to the Carnation Milk Company at Oconomowoc, from 8 A.M. until noon, is being offered. The Carnation Milk Company is one of the large evaporated milk firms in Wisconsin. A trip to this plant will be well worthwhile.

The program for Rochester Day, October 15, is arranged as follows: Arrive Rochester 8:15 A.M.; register at Kahler Hotel and sign up for trips. These will include a visit to the Mayo Clinic, the Institute of Experimental Research, and the Museum. At 1 P.M. the visitors will be entertained at a complimentary luncheon at the Kahler Hotel when a welcome will be extended by members of the staff of the Mayo Clinic, including Drs. Wilder and Rynearson. At a meeting in Plummer Hall at 2:30 P.M. a program of three 15-minute talks will be given. A trip to the hospitals and a tour of the city will follow this meeting. It is hoped that either Dr. W. J. Mayo or Dr. C. H. Mayo will be able to attend the luncheon meeting.

Other tentative trips now being scheduled will include visits to a cheese factory, the Pabst brewery and a sausage factory, all of which will illustrate the manufacturing of products for which Milwaukee is famed.—BRETA LUTHER GRIEM, *Chairman of Local Publicity.*

The House of Delegates

The following state dietetic associations, affiliated with the American Dietetic Association, have selected members of the House of Delegates for the Milwaukee meeting:

Alabama, Mary Blazek, Alabama College, Montevallo

California, Helen B. Anderson, Scripps Metabolic Clinic, La Jolla

Colorado, Doris Odle, Presbyterian Hospital, Denver

District of Columbia, Eva M. Marks, Gallinger Hospital, Washington, D. C.

Florida, Jennie Tilt, Florida State College, Tallahassee

Georgia, Mrs. Peggy D. Newsom, 1252 Emory Circle, N. E., Atlanta

Illinois, Millie Kalsem, Cook County Hospital, Chicago

Indiana, Helen Schuller, Indiana University Medical Center, Indianapolis

Iowa, Eunice Longworth, University Hospitals, Iowa City

Kansas, Kathryn Tissue, 104 Fraser Hall, Lawrence; Gladys Beyer, McPherson County Hospital, McPherson, *alternate*

Kentucky, Grace M. Covey, Veterans Adm. Facility, Lexington

Louisiana, Mrs. Elva James Kahrs, Touro Infirmary, New Orleans

Maryland, Mary Diefenderfer, State Teachers' College, Towson

Massachusetts, Maniza Moore, Beth Israel Hospital, Boston
Michigan, Grace Clark, Pontiac Hospital, Pontiac
Missouri, Bertha Bisbey, University of Missouri, Columbia
Nebraska, Angeline Phillips, University of Nebraska Hospital, Omaha
New York, Virginia H. Ray, Albany Hospital, Albany
North Carolina, Mrs. J. H. Martin, Duke University Hospitals, Durham
Ohio, Wilma F. Robinson, The Christ Hospital, Cincinnati
Oregon, Frances M. Croker, University of Oregon Medical School, Portland
Oklahoma, Ann Hains, St. Anthony's Hospital, Oklahoma City
Pennsylvania, Phyllis K. Sprague, Pennsylvania State College, State College, Pennsylvania
Tennessee, Fairfax T. Proudfit, 1105 Peabody Avenue, Memphis
Texas, Mary E. Smith, Memorial Hospital, Houston; Selma Streit, Scottish Rite Dormitory, Austin, *alternate*
Virginia, Aileen Brown, Medical College of Virginia, Richmond
Washington, Ruth Forsberg, Swedish Hospital, Seattle
Wisconsin, Nell C. Clausen, Milwaukee Children's Hospital, Milwaukee
Minnesota, Mary A. Foley, Mayo Clinic, Rochester

The following state dietetic associations have not selected representatives to date: Connecticut, Montana, New Jersey, Rhode Island, and Utah.

The Educational Exhibits

"More and better educational exhibits" is one of the slogans for this year's meeting. From a small beginning this feature of the Annual Meeting has grown to be one of the most worthwhile of all. Of special interest this year is an "Exhibition of American Menus" collected by the Association's most prominent culinary antiquary, Arnold Shircliffe, manager of the Wrigley Building Restaurant, Chicago. This unique exhibit, representing twenty-five years' effort in the assembling, will graphically illustrate American food habits and trends over the past one hundred years. Everyone concerned with food, whether dietitian, doctor, restaurateur, club manager, hotel catering man, food manufacturer or packer, will find much of interest in this collection.

The menus have been collected from all sections of the United States and represent typical menus from boarding house to the most exclusive club, hotel and restaurant, many no longer in existence. Famous menus as offered to visiting royalty and others noted in world affairs will be shown. This collection has never been exhibited before and will be of great interest to those fortunate enough to attend the Milwaukee meeting. Some of the choicest specimens in Mr. Shircliffe's collection consist of a bill of fare from the first hostelry in America carrying the name of "hotel"; one detailing the gustatory entertainment prepared for the Prince of Wales in 1860; a Fourth of July celebration in New York City in 1825; a menu arranged for Prince Henry of Prussia at Sherry's, said to be the greatest food event ever staged in America; and an 1849 menu arranged to celebrate the opening of the Gold Rush, at the Victualing House in San Francisco.

Hotel Accommodations and Other Information

The Hotel Schroeder is the headquarters hotel. If you decide to stay elsewhere see the May issue of the JOURNAL, page 395, for a list of other hotels with rates. Make your reservations early.

No special rates have been authorized by the railroads for the 1938 meeting so that certificates will not be required. However, the railroads in the western, northwestern, and southeastern states offer round trip tickets. Inquire of local ticket agents regarding rates, routes and stop-over privileges. The registration desk will be open by 10:00 A.M. Sunday morning, October 9. Plan to register as soon as you arrive so that you will have your registration badge at the Sunday tea.

The Tuesday evening dinners are for small groups having similar interests. So far, the following groups have asked to have arrangements made for dinners: dietitians from children's hospitals, college dining rooms, food clinics, public welfare organizations, and school lunchrooms. The following teaching groups are arranging meetings: those teaching nurses, and

medical students. If you would like to meet with members doing the type of work you are doing, send your request to the business office to be forwarded to the chairman.

The Chicago dietitians are arranging trips in Chicago on Saturday, October 15, for dietitians who do not go to Rochester on that day. Full details will be available in Milwaukee.

The Commercial Exhibits

This feature of the Annual Meeting with its Exhibitors' Luncheon, always one of the enjoyable events of the week, offers an up-to-date parade of all that is best in food, equipment, publications, and other manufacturing interests. A full list of the exhibitors will appear in the October JOURNAL.

EDITORIAL

New Fields and New Emphases in Education Related to Nutrition

In this issue of the Journal we present discussions of several phases of the dietitian's work and interests along educational lines. One writer points the way for the college student, eager to find that specal field suited to her talents and training. Another is directed toward the problems of that great "no man's land", the dietetic neophyte's probationary period, which begins on graduation from college and ends with the first happily placed and successfully performed, paying position. Others consider the opportunities and qualifications for research in nutrition and in administration; and that of the practicing dietitian's continuing professional education exemplified in an account of a "refresher" course sponsored by the Massachusetts Dietetic Association. This course, patterned after that of the current and popular medical graduate fortnights, included therapeutic demonstrations and "administrative clinics" arranged in a number of Boston hospitals.

No issue devoted to the dietitian's educational interests could overlook her earliest teaching activities, for instruction of the nurse gave the dietitian her first opening into hospital work. History indicates that Florence Nightingale was the mother of hospital dietetics as well as of nursing, for the work of the dietitian as we know it today really dates from the beginning of Miss Nightingale's service in the Crimea in 1854[1]. The establishment of the Nightingale system in America in 1890 opened the way for the first "classes in dietetics" at Mount Sinai Hospital, New York, The Johns Hopkins Hospital, the Pennsylvania Hospital, and the Presbyterian Hospital, New York, to be followed by similar developments in other hospitals. For years the dietitian's teaching of the nurse stressed dietetics and nutrition, based solely on therapy. Today we have veered to the broader field of teaching the application of the principles of normal nutrition to both the sick and the well. This change is reflected in the content of our modern teaching courses for the student nurse. Beyond this, and in keeping with medical interest in the prevention of disease as well as its cure, the dietitian's teaching of the nurse is concerned with nutrition as it relates to public health education.

Outside the limits of the hospital, today we see the dietitian reaching great numbers by means of community health education. Through various organizations and agencies such as the radio, public speaking and writing, her opportunity becomes almost unlimited. This, and the food clinic dietitian's direct approach to the patient and his family, are two comparatively new fields that have rapidly grown in scope in the last ten years.

From the days of Hippocrates and from time to time in medical dictionaries and elsewhere, dietetics has been recognized as "a branch of medical therapy". In view of the rather general acceptance of the import of nutrition by the medical profession, not only in therapy but in the prevention of disease, it seems odd to find that even in this progressive age the subject receives but incidental atten-

[1] L. F. Cooper: The Hospital Dietitian Arrives, Trained Nurse and Hosp. Rev., May 1938.

tion in many schools of medicine. That a subject can best be fixed in the minds of students through its practical application, is generally conceded. Therefore it is encouraging to find that some medical schools are teaching the practical application of the subject, dietetics, along with courses in nutrition. It is encouraging, too, to find that in some courses medical students are expected to *eat* the diets they devise. This cannot fail to be salutary, both to the student and finally to his patients. One of the first of such courses, that at the University of Rochester, and others at Cornell Medical College and Harvard Medical School are described in this issue.

The modern medical emphasis on treating the patient as a whole, with due consideration to his physical, social and economic status and his nutritional and health habits, has doubtless led to the dentist's broadening viewpoint and ultimately to his consideration of all possible extraneous factors in the causation of dental caries and malconditions of the mouth. This, and the extensive research to determine the relation of nutrition to dental caries, have led to nutrition courses for dental students. The courses as given at two leading schools, the University of Pennsylvania and the Forsyth Dental Infirmary, Boston, are detailed in this JOURNAL.

While obviously the dietitian's interests and activities in the field of education continue to broaden, certain fields still call for greater effort. The education of the school child and the college student in proper food habits, by means of the school lunch, the college dining hall food service and other forms of health education, is a particular field that cannot be too greatly stressed. Together with the physician, the dentist and the nurse, each supplementing the work of the other, the dietitian may, by means of her own specialized knowledge and technique, materially assist in promoting higher levels of health.

THE RADIO IN PUBLIC HEALTH EDUCATION

In all matters pertaining to the health and physical well-being of the individual and the community, the physician is chiefly and directly concerned. With the increasing emphasis on nutrition as a factor in maintaining good health, and along with the physician's awareness of the importance of diet in medical therapy, he looks to the specialist in nutrition, the dietitian, for assistance. The radio, as a means of public health education, offers almost unlimited possibilities, reaching as it does all levels of society. Programs sponsored by organized medical groups afford the dietitian an unquestionably ethical as well as an impressive means of assisting in the advancement of community health.

As one of the first groups to assist in a program sponsored by a county medical society, in which each speaker was introduced by a physician specializing in the particular field under discussion, we present brief excerpts from talks by members of the Rochester (New York) Dietetic Association over station WHAM. This program was conducted as a part of the weekly series given throughout the year by the Medical Society of the County of Monroe, and presented in February, March, April and May of this year.

Dr. Charles B. F. Gibbs, in his introduction to Etta H. Handy's talk

entitled "Nutrition in the Home", outlined something of the scope of work of the dietitian today in the hospital and other institutions, in public health work and research laboratories. He then said: "In order to spread the growing knowledge of the importance of food in maintaining health and in curing disease this program has been prepared. Members of the Rochester Dietetic Association will talk with you about some of the practical and helpful ways in which the information which they have will help you and your family. Especially is this important to growing boys and girls: the next 'bigger and better' generation."

Miss Handy, following, pointed out that there is no standard diet to suit everyone. While most people judge a meal by its ability to satisfy hunger, the diet as a whole must be more than a hit-or-miss collection of foods which happen to appeal to the appetite at the moment. Rather should it be a purposeful selection of those foodstuffs best supplying the body with the necessary materials for vitality, growth and health. Eating may be a necessity, but "intelligent eating is an art". She referred to the "rule of seven" for the selection of the family's daily food, as outlined in Edith Barber's book, *What Shall I Eat?* By keeping in mind this basic rule, it is not necessary to think specifically of proteins or vitamins or calories when doing the family marketing or choosing a meal in a restaurant. We need not deprive ourselves of the pleasure inherent in good food, or be in any sense a martyr in order to have a correct diet. A normal diet is determined by a wise choise of agreeable foods. A diet for special needs should always be prescribed by a physician.

The second of the series, "Nutrition Outside the Home", by Laura Comstock, nutrition advisor, Eastman Kodak Company, told the story of a 19-year-old high school graduate who calls at the company's employment bureau, and after having been provisionally accepted for employment, is referred to the medical department to determine if her physical condition is such that she can meet the demands of the position. Mary, the applicant, is found to be underweight and the examining physician advises her to correct her health habits, gives her a food outline, tells her she is accepted, and makes a note that she is to return for rechecking at the end of two months. Her failure to attain the desired physical status, as indicated by ideal weight, necessitates that she be referred to the nutrition advisor for a complete food survey and a series of interviews. Mary finally learns that it pays to go to bed earlier, thus she may arise refreshed, in time for an adequate breakfast, and avoid that "gone" feeling around ten-thirty in the morning. With her luncheons and dinners adjusted to her needs, she not only attains her ideal weight at the end of six months, but she also feels better, does not tire easily, is not irritable and looks more attractive.

The third in the series, "Diet of the Diabetic," by Blanche Bohach, followed a brief introductory discussion of modern principles in diabetic treatment, including the use of protamine insulin, by Dr. H. R. Drysdale. Miss Bohach pointed out that the diet of the diabetic today no longer segregates him from his family and friends at meal time. He eats at the same table and practically the same foods. She discussed the

several points needing emphasis in the diabetic's selection of food, for "one of the most important factors of good diabetic management is careful adherence to the diet, whether receiving insulin or not."

"Prevention of Deficiency Diseases", the fourth in the series, by Estelle E. Hawley, research fellow in the Department of Pediatrics of the University of Rochester Medical School, called attention to Dr. James McLester's comments on the dangers of suboptimal diets. The many instances of vague ill health may be a result of food deficiencies caused by following diet fads or restricted diets, or faulty food selection in general. The science of nutrition and the art of dietetics make it possible for the diabetic, the nephritic and the anemic patient to have pleasing and adequate diets adapted to their metabolic needs. Certain rules, if followed, assure ample protein, minerals and vitamins, and an adequate basic diet upon which caloric additions may be made to meet the energy needs of various individuals.

In introducing the fifth speaker of the series, Miss Handy, on "The Family Food Budget", Dr. Charles W. Warren cited the praiseworthy efforts of the Advisory Nutrition Committee during the early years of the depression in assisting families on reduced incomes. The nutrition experts who volunteered their assistance, published a series of practical articles in the local papers entitled "Living on Little". This project received the support and cooperation of the Medical Society of the County of Monroe. According to Dr. Warren, "The medical profession believes in a wider dissemination of our increasing knowledge of the importance of correct diet in the hope that an application of the basic principles will help to raise the general standard of public health." The talk, following, outlined means of apportioning the family's expenditures for food. With the general requirements of the family in mind, the food for the day or week may be adequately and economically selected by observing certain simple principles.

Dr. Albert D. Kaiser, president, Rochester Academy of Medicine, in introducing the sixth speaker, Grace Carden, on "Nutrition of the Child", pointed out that "since the feeding of infants and children has become a science, trained workers have applied themselves to the task of assisting physicians and parents in this important phase of helping maintain sound health." Miss Carden briefly reviewed the outline of the elements of nutrition as detailed by previous speakers in the series, and then showed how these may be adapted in the feeding of the infant and child. Only the physician should decide when it is unwise for the infant to be breast-fed. She then detailed the feeding of the child from infancy through the first few years.

The series closed with a talk on "Food Needs of the Expectant and Nursing Mother" by Elizabeth Henry, nutrition advisor, Public Health Nursing Association. She cautioned that the care and advice of the physician is essential to every expectant mother, and stated that her discussion of food would concern only the normal diet during pregnancy. "Her doctor will advise any special diet that is necessary". The woman who has been accustomed to a liberal, well balanced diet, need make

but minor changes during her pregnancy. The talk included an outline of the normal requirements and a "meal pattern" for the daily menu.

CURRENT COMMENT

Qualifications for Nutrition Research

Relatively few colledge men or women, even those majoring in science, are fitted by ability and temperament to undertake scientific research. There is no examination or test that can measure research ability, and brilliant scholarship is not, necessarily, a criterion. The characteristics that determine one's fitness for research are difficult to define but at least the urge to explore the unknown must be stronger than the urge for financial reward. Scientific curiosity, with ability to think independently, to see the gaps in scientific knowledge, to venture on an uncharted course and keep an accurate record of that course—these are among the many qualities which make for success in any type of research. Interest and ambition have too often been mistaken for true research ability. As a result many superficial problems are investigated with questionable findings, and the fundamental problem concerned in an investigation may be unrecognized.

Nutrition as a science may be new but its roots are deep and devious and they must be well grounded if the plant is to bear worthwhile fruit. The real advances are made by those who bring the best preparation to bear upon the problem in hand. Graduate study is almost essential today because there is no time nor is it desirable in the four-year general college course to specialize sufficiently. An undergraduate major in foods and nutrition or in chemistry and general science is the most desirable foundation. In any event, chemistry and physiology are fundamental and the former should include inorganic, organic, qualitative, quantitative and physiological chemistry and the chemistry of foods. Biology, including histology and embriology, bacteriology, physics and mathematics, with a working knowledge of statistics, are valuable adjuncts. Numerous other subjects might be added as they relate to specific fields of interest.

Nutrition problems offer a special challenge to women because of the nature of the subject and its human applications. There must be the scientific approach, however, and not solely the humanitarian motive. Nutrition deals with the scientific laws governing the requirements of man and animals for maintenance, growth, activity, reproduction and lactation. An approach to an understanding of these laws may be made through chemistry, physics, physiology and related subjects, but the techniques for the investigation of nutrition problems involve the use of living test tubes—small laboratory animals, domestic animals or man.

Research work in this field requires patience and sustained interest; otherwise, the initial enthusiasm of planning and starting an experiment may not hold until results are obtained and verified sufficiently for conclusions to be drawn. Because of natural variations in living organisms, large numbers of subjects must be used and the experiment repeated a sufficient number of times for differences to be statistically significant. When human subjects are used, ade-

quate control is often difficult and numerous extraneous factors may enter the picture, but work with humans is, nevertheless, highly desirable.

The subjects investigated by nutrition research workers are varied. The chemical analyses of foods need to be supplemented with knowledge concerning the availability of nutrients to the living organism. The vitamin content of foods was entirely dependent upon animal assay until very recently, and modern chemical methods are still checked against bioassay figures. A study of the metabolism of proteins, fats and carbohydrates still offers many an unsolved problem and the interrelationship of minerals and other factors is almost an untouched field. Nutrition as it relates to the deficiency diseases has been a popular subject and has now reached a point where the practical application of results is possible. The dietary treatment of certain metabolic diseases is fairly well understood, but nutrition problems as they may relate to the chronic diseases of middle age are yet to be fully investigated.

Thus the lure of exploring the unknown in nutrition still awaits those who have the inclination, the preparation and the native ability for such work. The human need of further knowledge is all too apparent; it is chiefly the lack of funds that sets a limit to research in this field.—HELEN S. MITCHELL, *Massachusetts State College, Amherst.*

A DIETETIC VENTURE AT HARVARD MEDICAL SCHOOL

A voluntary course in nutrition and applied dietetics was offered to second and third year students in the Harvard Medical School during the past two years. The general plan is of significance to dietitians in other medical schools, particularly in view of the recognition by physicians[1] of the importance of including instruction in practical dietetics in the medical curriculum. The writer was requested by Dr. Joseph C. Aub to teach the course in nutrition and applied dietetics which is included in the study of metabolic diseases conducted by Dr. Aub and his associates. The success of this course was due in large measure to the doctors' cooperation in emphasizing its importance and to their interested participation in the discussion during and following the classes. The students were sufficiently interested to devote eight free afternoons to the course, usually remaining for a half-hour or more of informal discussion following the nutrition lesson.

In order to orient ourselves at the beginning of the course with regard to the amount of practical knowledge of dietetics previously acquired by the students, a sample diet was exhibited for criticism. This gave the instructor an opportunity, as well, to present in graphic form the essentials of normal nutrition. It also encouraged us to continue throughout the course with pertinent demonstrations, giving the students an opportunity to realize the gap between theoretical knowledge of nutrition, in which they were well grounded, and practical knowledge and appreciation of the finer points and possibilities of diet in the prevention and therapy of disease. An actual case was studied whenever possible.

Moreover, we went so far as to introduce one histrionic occasion. The class room became the office of a student five years later. Having no obese patient

[1] Stealy, C. L.: J. Am. Dietet. A. 13: 377, 1937.

available with sufficient sense of the dramatic, we showed pictures and introduced Genevieve Shaul, an invaluable student assistant, who told an amusing history of a fat lady's dietary caloric combinations, which we demonstrated with lumps of sugar.

The writer believes that such a nutrition course would be more significant if given to fourth year students having wider clinical experience. Furthermore, it would have been an advantage to have had more than eight sessions and to have been able to make definite assignments which would have resulted in maximum student participation. This was not possible in a voluntary course conducted during the students' free time. However, it was encouraging that the number of students increased from twelve to twenty as the course progressed (except when a bacteriology examination was scheduled for the following morning).

Three other courses in nutrition are offered to small groups of Harvard medical students at teaching hospitals in Boston as part of regular courses in medicine, but at present, no dietetic course is included in the curriculum for all medical students. This initial experiment was commended as successful by the students and medical staff. Evidence for this is forthcoming in that some of the students have asked to repeat the course.—BEULA BECKER MARBLE, *Huntington Memorial Hospital, Boston.*

TEACHING NUTRITION TO DENTAL STUDENTS AT THE UNIVERSITY OF PENNSYLVANIA

Many abnormalities and diseases occurring in the mouth are now recognized as being directly or indirectly related to nutrition. This concept has emphasized the consideration of the patient's nutritional status as an aid in dental diagnosis and treatment. Dental educators have been aware that these needs of the dentist are best met through separate nutrition courses rather than treating the subject incidentally in physiology and biochemistry courses as was formerly done.

The School of Dentistry at the University of Pennsylvania has included nutrition as a separate subject since 1930, using the course of study outlined by the Curriculum Survey Committee of the American Association of Dental Schools. The course aims to help dental students to become acquainted with reliable nutrition literature; to understand nutrition in terms of personal health; to explain to patients the relation of nutrition to the development and maintenance of healthy teeth and gums; and to cooperate with physicians in suggesting diets suited to individual needs of patients.

The interpreting of nutrition to clinic patients has received special attention recently. In preparation for this each student kept a diet record for one week, made a complete analysis and correlated the findings with his personal health problems.

If his diet was below desirable standards, necessary food changes were indicated. Following this assignment students reported nutrition research at various age periods and prepared food value charts. The best sources of calcium, phosphorus, iron, and vitamins A, B, C and D at various income levels and for different nationalities were chosen as the most desirable illustrative material.

During the past year each senior

selected two patients for nutrition case studies: a child and an adult whose dental conditions made a dietary study desirable. Special forms to help patients make an accurate record and to assist students in analyzing the diet were mimeographed. To facilitate dietary calculations, a booklet *Food Values of Portions Commonly Served* was compiled from the most authoritative and up-to-date sources.

Upon completion of the analysis, suggestions for improving the diet to fit individual needs were made and discussed with the patient or his parents, and the nutrition instructor. All suggestions agreed upon as being practical were recorded by the dental student on the diet record and separately for the patient. If the latter was under special medical care the results of the study and a statement of the dental condition were also sent to the physician with a request for his cooperation. Nutrition literature was given to each patient to fit his needs and interests.

To understand the possible value of nutrition studies with patients in private dental practice the nutrition instructor availed herself of an unusual opportunity, offered by a local dentist, to make dietary analyses for special individuals. This work provided excellent opportunity for discussing with students the possibilities for practical application of their nutrition knowledge when established in their own offices.

Dietary analyses based on a week's record of food intake for 143 clinic and 40 private patients, ranging in age from 4 to 64 years, indicated the following:

1. No diet was adequate in all essentials in either group.
2. The greatest number of deficiencies or deviations from desirable standards were shown in the carbohydrate-fat ratio, iron, and vitamins D and B.
3. A study of dietary essentials most closely related to teeth showed the following: In the clinic group—90 diets inadequate in calcium, 73 in phosphorus, 80 in vitamin A, 76 in vitamin C, 133 in vitamin D, and in 38 diets, an excess of acid-forming foods. In the private office group—20 diets inadequate in calcium, 25 in phosphorus, 18 in vitamin A, 12 in C, 38 in D, and in 6 diets, an excess of acid-forming foods.
4. The greatest deviations from adequate diets were in the prenatal, adolescent and adult periodontia groups in both clinic and private practice. Dental caries and gum conditions were also more serious in these particular patients.
5. The diets of the periodontia patients in both groups were much more deficient in calcium, phosphorus, vitamin C and alkaline-ash foods than in the other adult groups.
6. The number of cases studied is too small to warrant any conclusion. However, the many inadequacies in the diets and the correlations of certain deficiencies to dental conditions have greatly vitalized the subject of nutrition for dental students.—Anna DePlanter Bowes, *Lecturer on Nutrition, University of Pennsylvania School of Dentistry.*

Dramatizing the Hospital Dietary Department on the Air[1]

Three times daily the spotlight is focused on the dietary department of a hospital. These are the times when the

[1] Abstract of an address presented by Dorothy Milavetz, director of Department of Dietetics, Grace Hospital, New Haven, over Station WICC on Hospital Day, 1938.

meals are actually being served. But long before the curtain rises, the work of preparation has been going on. In the theatre, a play must be chosen carefully to suit the tastes of a potential audience and the best possible production staff and cast must be assembled and undergo a long and arduous period of rehearsal. So, in the hospital, food must be selected, purchased, and prepared to fill the needs, not only of the patients, but of the hospital personnel.

The patients include those on regular diets, and those whose diets must be adjusted to meet certain special needs; the personnel includes doctors, nurses, the rest of the technical and clerical staff, and all who perform the purely physical work of the institution—maids, porters, laundry and cleaning people, and so on. All these comprise the audience which the dietary staff of a hospital must satisfy.

First, this audience must be given sufficient and suitable nourishment. But the work of the dietary division does not end here. It must also provide ample margins of nourishment for the repairing of sick bodies. It is obvious, then, that the hospital cannot deal with nutritional minimums. Unlike a purely profit-making establishment, the hospital must place excellent quality and abundant quantity above monetary considerations. And even this is not all the dietary department must do. A play, no matter how good it is from a literary and artistic point of view, will not succeed unless it is well presented. Likewise, hospital meals must be served in such a manner that eating will be an enjoyable experience and digestion facilitated. If a patient does not like his meals well enough to do them full justice, his recovery may be retarded. Moreover, unlike the patron of a restaurant, the hospital patient or employee, if dissatisfied, cannot go elsewhere to eat. Consequently he may relieve his sense of dissatisfaction by criticism which will prove destructive to the morale of the hospital.

This, then, is the type of production demanded of the dietary staff of a hospital. How do we go about preparing it? First, like any production it must be carefully budgeted, for although approximately one-third of the entire hospital budget is spent on this department, there is still no room for waste Market reports should be studied constantly, so that one may obtain the best grade of food at the most reasonable price. Menus can be much more varied and interesting today, however, than they were a few years ago, for improved methods of preservation, packing, and transportation make possible a greater variety; and fortunately the food director of a hospital usually has enough buying power to take advantage of these benefits.

After the food is bought, it must be stored properly. Different kinds of perishable food should be kept at different temperatures, and dry food put in a dry place. It is necessary that an accurate control system for all incoming and outgoing materials be devised and maintained. A careful check is essential to avoid undue waste of food served.

We now turn to the actual preparation of the menus and the food itself for a given day. This is like the intense period of rehearsals which must take place before the presentation of a play. The directors of our production are the dietitians. The administrative dietitians direct and coordinate the production as a whole, while the therapeutic

dietitian works with the individual diets for patients who require special treatment. The latter must also teach the patients how to adapt their diets to their particular needs, and instruct the nurses so that they may more efficiently help their patients. The production staff is composed of cooks, maids, waitresses, dish and pot washers, cleaners, porters, storeroom men and so on.

The first step in the actual preparation is the planning of the menus. These must be made out well in advance, so that the work can be organized and directed. The food likes and dislikes of the group must be considered, some freedom of choice permitted in order to keep them happy, and the menus must introduce a reasonable variety.

It must always be kept in mind, however, that the foremost consideration is nutritive content and consumption. Just as beautiful, artistic sets do not make a play, so appeal to the eye does not make a meal. The esthetic element has its place in the serving of a meal in the hospital as elsewhere, and it should not be neglected. Again, unlike an institution operating solely for profit, a hospital must place wholesomeness and food value above mere decorative effects. Pink mayonnaise and fruit baskets made of orange skins have no place on the hospital menu. The serving of too many foods in fancy sauces and gravies should be avoided as much as possible because they tend to make the diet monotonous, and put an extra burden on the digestion. Just as a young and beautiful actress needs little makeup, good food needs no disguise. We can obtain colorful and pleasing effects without having to resort to overly elaborate mixtures and decorations.

The changes that the seasons bring to meals are in themselves a picturesque pageant: broilers, fresh asparagus and strawberries herald the spring; cantaloup, peaches, and corn-on-the-cob, the summer. The holidays, too, appropriately enliven the menus.

The curtain now goes up on the actual presentation. Today, the meals, planned with such care, are to be served. Every member of the production staff and crew is on tiptoe, ready to take his cue, so that the performance may go smoothly. The three acts of the drama are breakfast, luncheon, and dinner. At 3:00 A.M., long before anyone is likely to be thinking of food, the pastry cook starts the breakfast rolls, and the work goes on throughout the day until the last dish has been put away after the night employees' midnight meal has been served. At every meal, food must be served at approximately the same time, to patients in their rooms and to the personnel in the dining rooms. Hot foods must be served hot, and cold foods cold, and the patient's food must be served in such a way that it will not call for too much effort in consuming it.

In order that the actual serving of food, the final step in our production, may be carried out effectively, we must have adequate equipment and facilities for speed in delivering, for the hospital audience must not only be satisfied, but must not be kept waiting. The hospital food service, therefore, must be a well coordinated and never lagging production.

A "Refresher" Course for Dietitians

The Massachusetts Dietetic Association is living up to the Boston tradition of sponsoring new ventures. This spring a refresher course for dietitians was sug-

gested by the state president, Beula Becker Marble. At a meeting of the New England Hospital Association which she attended, superintendents in outlying districts stated that their dietitians found it difficult to attend monthly meetings of the Massachusetts Dietetic Association.

With this in mind, a special course was planned to be of practical value to the hospital dietitian. Two letters were sent to 130 superintendents and as many dietitians, the first explaining the purpose of the course which offered observation in the dietary departments of large and small hospitals in Boston and vicinity, lectures on present-day trends in nutrition, diets for special diseases, menu planning, dietary department bookkeeping, and so on, if at least twenty superintendents would send their dietitians for five consecutive days at a registration fee of $5.00. They were given a choice of dates, May 23 to 28, 1938, a fall session, or one in the spring of 1939 at the time of the meeting of the hospital association.

The dietitians of each hospital, in the same mail, received word that the superintendent had been written to, and were asked to discuss the matter with him. The letter also listed the hospitals in which morning observation was to take place, and suggested if they planned to attend that they signify types of special observation and subject matter of special interest.

Within a week, over thirty superintendents had approved the idea and had selected May of this year as the date preferred. They not only answered the questionnaire but also wrote personal notes expressing their approval and interest. In instances where it was impossible to send their dietitians they answered with regrets. Since May was chosen as the date by the majority, a post card went out to say that the course would be given at that time.

Letters with suggestions continued to come in from the dietitians themselves—forty-five—asking for observation periods for special diets, food clinics, purchasing, menu planning, and for lectures which would answer practical questions.

Only thirteen superintendents wrote that they could not send their dietitians, some because they had no funds, were changing dietitians or could not spare the time. Sixteen asked for the course at some later date. A few were returned unclaimed.

The writer had been chosen from the beginning to arrange the course and so called a meeting of the Boston dietitians to discuss plans. Their response was as enthusiastic as that of the superintendents. They agreed most heartily to receive the visitors and willingly consented to discuss the topics requested for the afternoon lectures. No one refused to participate. Ernestine Becker consented to come from Johns Hopkins University as speaker for the dinner session. Quindara Oliver Dodge offered to analyze menus if they were sent in advance. Dr. Alice Blood offered her assistance. The two physicians asked, responded gladly; and the chief dietitians in Boston hospitals were well represented as will be seen from the following program. With the final program, sent out May 2, went an explanatory letter and a return post card on which to indicate hospital preference for observation.

The program was planned so that the mornings were devoted to observation and practice under the chief dietitians of the following hospitals: Beth Israel,

Boston City, Massachusetts General, Massachusetts Memorial, New England Deaconess, Peter Bent Brigham, Massachusetts Women's, New England Hospital for Women, Robert Breck Brigham, and Women's Free. The subjects covered in the morning demonstrations were therapeutic diets, administration, infant feeding, and problems of the small hospital. Observation and practice included the work of the food clinic under the direction of Frances Stern of the Boston Dispensary, Ruth White of the Forsyth Dental Infirmary, and Dorothy Duckles of Massachusetts General.

A formal program was arranged for the afternoons consisting of the following: "The Dietitian as a Teacher", Dorothy Duckles, Massachusetts General Hospital; "Menu Planning", Quindara Oliver Dodge, Simmons College and Women's Educational and Industrial Union; "Personnel Management," Maniza Moore, Beth Israel Hospital; "Diabetes Yesterday and Today", Alexander Marble, M.D. and Alene Fulton, New England Deaconess Hospital; "Equipment", Rosina Vance, New England Deaconess Hospital; "Diet in Gastro-Intestinal Diseases", Sarah M. Jordan, M.D., Lahey Clinic; "Dietetics 1938", Alice Blood, director, Department Home Economics, Simmons College; "Housekeeping Problems", Edith Hoadley, Salem Hospital; and "Cost Accounting", Marian Floyd, Massachusetts General Hospital. At the dinner meeting, Ernestine Becker, The Johns Hopkins University School of Hygiene and Public Health, spoke on "Vitamins".

The course was most successful. Thirty-seven dietitians registered on the first day in the staff room of the Peter Bent Brigham Hospital, which Dr. Howland loaned for the occasion. The morning observation periods proved of inestimable value. The afternoon lectures were followed by a question period so that each dietitian could find the answer to some of her individual problems. Quindara Oliver Dodge and Dr. Alice Blood prepared a reference list. Dr. Blood gave a delightful tea for the visitors following her lecture. The dinner meeting was open to members of M.D.A. and Miss Becker brought the subject of vitamins up-to-date and made a complicated subject lucid as well as interesting.

At the last meeting Marian Floyd served coffee and doughnuts and we wound up the course by asking for suggestions and criticisms. Everyone was enthusiastic and hoped the course could be repeated biennially. All in all we were very proud of our success.—GERTRUDE SPITZ, *65 St. Mary's St., Brookline, Mass.*

BOOK REVIEWS

Recipes at Moderate Cost. By Constance C. Hart. New York: F. S. Crofts & Company, 1938, pp. 404. Price $3.00.

This fourth and latest addition to Crofts' series of textbooks on institution administration, of which Mary de Garmo Bryan is editor, proves to be one of the most outstanding contributions yet published in the field of food preparation for large groups. The attractive washable cover in soft tan and green with its all over conventionalized design of fruits and vegetables is both sturdy and pleasing to the eye. The binding, a modification of the popular spiral type, permits the pages to lie absolutely flat when the book is in use. The brief, lucid preface sets the tone for the quality of the recipes that follow.

Several distinctive features immediately commend the book as a reliable and authoritative source of quantity recipes. The 504 recipes, standardized for 50 portions, definitely stated in size, were selected because in actual use they had proved popular, economical and practicable. Nutritive value and simplicity of preparation, as well as palatability and visual attractiveness when served, were highly rated in making the final selection. In addition, the name of each recipe has a high sales appeal value on the printed menu or menu board.

The book will prove a boon to the manager who insists upon well-cooked fresh vegetables and delectable meat substitute dishes. It meets the problem of finding palatable supper and luncheon dishes of sufficient variety and interest. The contents are stimulating and immediately usable from beginning to end. The distinctive format and organization and arrangement of contents will facilitate intelligent use of the material without waste motion.

In addition to the usual table of equivalents and abbreviations, the capacity of stainless steel, solid ladles, and Hamilton Beach scoops or dishers is given. Oven temperatures for baking and roasting are given in degrees F. and the equivalent in degrees C. The ten page tabulation of weights, measurements and equivalents, lists food products in cooked and raw form, both A.P. and E.P. (when necessary), for the fresh as well as the dried, canned or frosted item. The weights and measurements are given, usually in the units or multiples of units in which the products are commonly bought for large group consumption. The obvious care with which this table has been prepared gives one confidence in the accuracy of the recipes that follow.

Chapters are arranged as follows: Soups; Meats; Meat Substitutes and Fish; Sauces; Vegetables; Salads; Salad Dressings and Relishes; Sandwiches; Hot Breads; Cakes; Cake Fillings and Frostings; Cookies; Pies; Puddings; Sweet Sauces; and Beverages. In addition there is an invaluable chapter of General Information at the beginning of the book; also two on Dinner Menus and Special Occasions at the end. The dinner menus are grouped according to price: inexpensive, medium-priced and higher-priced. Original and ingenious menus are outlined for holidays and special calendar events throughout the year in the final chapter.

The beginning of each chapter of recipes is indicated by a differently colored card with extension tab on which appears the group classification: soups, meats and so on. Each of these cards contains a complete alphabetical index to the recipes following. This innovation facilitates ready reference and speeds menu planning since one need not refer routinely to the general index. The organization and tabulation of the general index is likewise ingenious. All recipes in which a certain food product is used are grouped, and there is also the customary listing of each recipe by name. For example, under *Nut* appears Boiled-Frosting; Bread, English; Nut and Celery Sandwich; Coffee Cake; Nut and Date Bread; Date Caramel Cream Pudding; Nut and Date Sandwiches; Nut and Fruit Muffins; Maple Cream Frosting; Nut and Olive Sandwiches; and Raisin Pie. Such a set-up is not only helpful in menu planning, but also in preparing the market order and routinely checking menus for nutritional adequacy, and in order to avoid undue repetition of flavors, textures or the same food products in a given meal or during the day.

A table based upon a calculation of costs of all recipes in December, 1937, in Rochester, gives the ranges and average costs per portion for the various types of dishes. Soups were found to have a range, per portion cost, of $.005 to $.059 with an average of $.028; sandwiches, $.013 to $.043 with an average of $.028. Space is provided in each recipe for the entering of

ingredient costs, total cost and cost per portion. The book should be an effective factor in cost control if each manager makes her own entries and calculates the cost per portion.

For school, institution and commercial food service, this book excels as a reliable source for delicious, palatable and inviting recipes. It will prove equally valuable for the experienced and the inexperienced manager. It will also serve as an effective text in teaching menu planning, cost control and sound market order calculation in the classroom. It effectively applies the principles of scientific management to the immediate problems and needs of the food production manager and the institution management college student just gaining insight into this subject. No food executive, institution management teacher or student should be without this excellent book.—QUINDARA OLIVER DODGE, *Simmons College, Boston.*

It's Fun to Cook. By Lucy Mary Maltby. Illustrated by Ruth King. Philadelphia: John C. Winston Company, 1938, pp. 400. Price $2.00.

Here is a successful story cook book by a well-known home economist. The author spins a lively story interwoven with an amazing amount of information about cooking, menus, recipes, nutrition and good manners. She seems to have an unusually keen understanding of the young audience for whom the book is intended, and a fine appreciation of desirable family attitudes.

The story part of the book concerns twins in their teens. They cook a meal and find that cooking can be exciting. Continuing their experiences, they soon realize the desirability of knowing more about cooking fundamentals and nutrition facts and the story proceeds to set up day by day situations which permit the giving of much worthwhile information in very tasty morsels. The girls entertain, help at teas and buffet suppers, plan a school benefit party, and have picnics, coed parties and other gatherings. The more serious diet and nutrition facts are outlined in chapters headed "Shoulds and Coulds" (adequate diet), "Counting The Calories" (sound dietetic facts) and "Home Again" (convalescent cookery, child feeding and tray service). While good form is stressed at all times, there is one memorable chapter on manners. The last half of the book consists of recipes. The book is attractively illustrated throughout and the illustrations aptly captioned. Easy recipes are starred.

The value of this book to home economists and dietitians dealing with young people should be threefold: (1) it dramatizes facts in a way to make them easily remembered; (2) it suggests practical projects as an effective way to stimulate interest, giving several possibilities in detail; and (3) it will serve as an excellent starting point for the teaching of sportsmanship, good form, good manners and the desirability of accepting responsibility and doing one's job well.—HELEN TREYZ SMITH, *312 Central Avenue, Fredonia, New York.*

Scientific Catering for Institutions. By Juliet de Key Whitsed, Dietitian in Chief, Johannesburg General Hospital, South Africa. Baltimore: William Wood and Company, 1937, pp. 262. Price $3.25.

This is a courageous attempt to cover in one volume the subjects of nutrition, cooking, equipment, kitchen layouts, institution management, dietaries for various groups, and the education of a dietitian. The book also includes reports covering food service in a number of institutions in South Africa.

The author gives many practical suggestions in regard to the preparation of food and the organization and management of a culinary department. It makes interesting reading because it shows how far dietitians in the United States have come. In going through these pages one has the sensation of going back twenty years—when dietitians were first entering the hitherto unknown field of institution dietitics.—KATHERINE MITCHELL, *Tata Memorial Hospital, Bombay, India.*

Food and Physical Fitness. By E. W. H. Cruickshank, M.D., D.Sc. Baltimore: William Wood and Company, 1938, pp. 148. Price $2.00.

Dr. Cruickshank, Regius professor of physiology in the University of Aberdeen, has based the contents of this book on a series of public lectures given at the University. He subdivides his material as follows: The Energy Needs of the Body; Foodstuffs and Their Fuel Value; Mineral Salts in Nutrition; Vitamins and Dietary Deficiency Diseases; Dental Caries; Vege-

tarianism; Food Economics; and Under-nutrition and its Relation to Diet.

The conclusions drawn are, on the whole, in conformity with those generally accepted. In the chapter on vegetarianism the author discusses current dietary fads and foibles and points out that "a new mythology" has risen in our midst—the mythology of diet—advanced by dietary zealots whose perseverance in action and persistence in argument do credit to human endeavor.

Diet and High Blood Pressure. By Dr. I. Harris. London: The Hogarth Press, 1937, pp. 196. Price 10 s. 6 d. net.

In his preface the author boldly states, without preliminary quibbles: "I am satisfied that if the dietetic régime recommended in this book is generally followed, thousands upon thousands of persons annually will be saved from premature decay and death." One is thus somewhat prepared for what follows. In great detail and with infinite assurance he then presents his thesis: that too much food containing protein affects the blood pressure adversely and damages the kidney. "Rich feeding means also the accumulation of material in the blood which corrodes the blood-vessels." Tea and coffee are "slow-acting poisons." "Alcohol and tea are both harmful. In the long run the latter is likely to be more harmful than the former."

All this, and much more, is interspersed with a fair amount of authentic information. The style, however, is tediously iterative; the premise unproved; and the content, on the whole, of little value.

Nutritive Value of Canned Foods. Compiled by the Research Department of the Continental Can Company, Inc. New York: 1938. pp. 16. Copies available upon request to the Research Department, Continental Can Company, Inc., 4645 West Grand Ave., Chicago.

Herein is presented a brief resumé of the work which has been done in the United States on the changes taking place in the nutritive value of foods during canning procedures, particularly the effect on the vitamin content. In summary it is said that in the conversion of raw food to canned food the vitamin content is not seriously affected.

Nuts and Ways to Use Them. By Elizabeth Fuller Whiteman. **Home-Made Jellies, Jams and Preserves.** By Fanny Walker Yeatman and Mabel C. Stienbarger. Foods and Nutrition Division, Bureau of Home Economics.

These are the Bureau's two most recent bulletins, covering the food value, selection and preparation of nuts and excellent recipes; and full directions for the preparation of a variety of jellies, jams and preserves. Both are based on experimental work done in the Bureau's food laboratories and are on the free list of Department of Agriculture Publications.

CURRENT LITERATURE

American Journal of Digestive Diseases

Vol. 5, May 1938

*The therapeutic application of acidophilus milk in constipation of children. L. F. Rettger, L. Weinstein, M. Bogin and J. E. Weiss.—p. 170.
*The nutritional value of soybeans. A. A. Horvath.—p. 177.
*The diet of primitive and ancient man. L. Arnold.—p. 191.

Vol. 5, June 1938

*Chronic ulcerative colitis: An analysis of 88 cases. I. A. Feder.—p. 239.
*The vitamin B complex and functional chronic gastro-intestinal malfunction: A study of 227 cases. H. Borsook, P. Dougherty. A. A. Gould and E. D. Kremers.—p. 246.
The vitamin C content of certified milk at the time of consumption. F. V. West and J. C. Wenger.—p. 251.
The pain of ulcer. W. C. Alvarez.—p. 260.

ACIDOPHILUS MILK IN CONSTIPATION OF CHILDREN. Twenty-two of a group of 27 children ranging in age from 10 months to 13 years were completely relieved of intestinal stasis by the use of acidophilus milk. It forms a very fine curd which digests with ease. The fat and lactose content are somewhat lower than in sweet milk. Cost is the most difficult problem.

NUTRITIONAL VALUE OF SOY BEANS. The most expensive food constituents are minerals, vitamins, proteins, and fats. Soybean flour is rich in all these food constituents and yet relatively cheap. As compared with most vegetables, it has unusually large amounts of protein, fat, calcium, phosphorus, and iron. Cooked immature soybeans are a very good source of vitamins A, B and G, and a poor source of vitamin C. The moderate cost of soybeans makes them available to people of small income.

DIET OF PRIMITIVE AND ANCIENT MAN. Ancient man chased and killed before he feasted. He collected seeds of wild grass, soaked them in water or mashed them between stones. Growth, reproduction and maintenance were aided by ingesting the seeds of these cereals. During the last 60 years man has made rapid progress in controlling his environment. By physical, chemical and biological measures he has so changed the world in which he lives that only the outdoor air and weather conditions remain beyond his control.

CHRONIC ULCERATIVE COLITIS. The ideal menu for chronic ulcerative colitis consists of a well balanced, high caloric, high vitamin diet, which leaves as little residue as possible for the colon. Because of increased peristalsis there is little absorption in the colon and undigested food in the bowel is a source of irritation. Synthetic preparations of all the vitamins are used orally and parenterally when the patient is unable to retain them by mouth. An analysis of 88 cases varying in age from 7 to 70 years is presented.

VITAMIN B COMPLEX AND INTESTINAL FUNCTION. Scrutiny of diets selected at random showed that the vitamin B intake of most people is little above the anti-beriberi protective level. Few adult diets, even among the well-to-do, contain 400 I.U. of B_1 daily, which is twice the anti-beriberi level. To this is usually added a high carbohydrate intake which requires increased amount of B_1. In 227 cases of chronic gastro-intestinal malfunction on well-balanced diets high in vitamin B, with such carbohydrates as sugar, potatoes and white flour eliminated, marked benefit was obtained in nearly all cases. The whole vitamin B complex was superior therapeutically to any single fraction. The minimum quantity of vitamin B_1 required to prevent beriberi increases with weight, metabolic rate, exercise, pregnancy, lactation, and the extent of carbohydrate metabolism. The optimum may be four or five times that of the minimum. A constitutional factor may also affect the level of optimum vitamin intake.

American Journal of Diseases of Children

Vol. 55, April 1938

*Nutritional heart disease in children. J. I. Waring.—p. 750.

Vol. 55, June 1938

*Addition of vegetable soup and strained vegetables to diet of artificially fed infants. M. W. Poole, B. M. Hamil, T. B. Cooley and I. G. Macy.—p. 1158.
*Insensible perspiration in children. IV. The influence of salt. G. J. Ginandes and A. Topper.—p. 1176.
*Urinary output of vitamin C of normal and of sick children. T. S. Bumbalo.—p. 1212.

NUTRITIONAL HEART DISEASE. In 13 cases of nutritional heart disease the cardiac changes

were believed to be due not entirely to a lack of vitamin B, but to a more general deficiency of dietary materials. A satisfactory response to dietetic treatment may be expected when the illness is not too far advanced.

SUPPLEMENTARY DIET FOR INFANTS. In 215 infants born at full term, 5 premature infants and 8 twins, dietary additions of commercially canned vegetable soup did not produce any digestive upsets or diarrhea. The vegetable soup was incorporated in the formula. The transition to solid food was aided by starting the feeding of cereals and vegetable purees at the fourth and fifth month. Owing to the adequacy of the basal diet, the soup did not significantly influence the averages for growth in weight or in linear dimensions.

INSENSIBLE PERSPIRATION. A definite reduction in rate of insensible perspiration was produced in children by the administration of varying doses of salt. The increased osmotic pressure of the blood probably changed the vapor pressure of the fluids. There was no change in total heat production.

URINARY OUTPUT OF VITAMIN C. Urinary excretion of cevitamic acid of a normal child on an average diet ranges from 11.2 to 71.2 mg. per 24 hours and is directly dependent on vitamin C intake. There appears to be some vitamin C deficiency in all febrile conditions in children. A method for the determination of cevitamic acid is given. A scorbutic child four years of age recovered fully with cevitamic acid treatment.

American Journal of Nursing

Vol. 38, May 1938

Endemic pellagra. W. H. Sebrell.—p. 507.

American Journal of Physiology

Vol. 122, May 1938

*Effect of certain foods on bile volume output in the dog. E. J. Kocour and A. C. Ivy.—p. 325.

*The relation of the adrenal cortex to carbohydrate metabolism. A. Grollman.—p. 460.

BILE OUTPUT. The potency of meat as a stimulant of bile-volume output is confirmed. The addition of meat to a mixed diet also increases bile output; 100 gm. of beef liver, when added to a mixed diet, produce from 18 to 20 per cent more bile than 125 gm. of beef ham or beef heart. The ingestion of 20 cc. of olive oil by a fasting dog, with or without the return of bile to the intestine, stimulates bile output in most dogs to the same extent as 125 gm. of raw, ground meat. When added to a mixed diet, 60 cc. of olive oil does not stimulate bile output.

ADRENAL CORTEX AND CARBOHYDRATE METABOLISM. The adrenal cortex, unlike the pancreas or hypophysis, is not preëminently involved in the maintenance of normal carbohydrate metabolism. The deficiencies in carbohydrate levels observed in adrenal insufficiency are probably attributable to secondarily induced pathological changes in the liver, muscles and hypophysis.

American Journal of Public Health

Vol. 28, June 1938

The epidemiology of trichinosis. C. D. Barrett and R. Sears.—p. 706.

*Nutrition program in a state health department. W. E. Morris.—p. 718.

*Lactobacillus acidophilus and dental caries. P. Jay.—p. 759.

NUTRITION PROGRAM. A program of education in the dietary improvement of health, conducted during the 1936–1937 school year in Kent County, Delaware, reached the public through posters, news stories, meetings, demonstrations, and circular letters. Breakfasts were stressed, as a survey of 6511 school children's breakfasts showed half to be inadequate.

LACTOBACILLUS IN DENTAL CARIES. Studies conducted in the School of Dentistry, University of Michigan, show that dental caries is not related to nutritional adequacy of the diet. The disease is not arrested by supplementing the diet with mineral and vitamin preparations. A diagnostic relationship exists between the growth of oral lactobacilli and dental caries activity. The number of oral lactobacilli is proportionate to the amount of carbohydrate in the diet. Restriction of this element is an effective method of treating rampant dental caries.

American Journal of the Medical Sciences

Vol. 195, May 1938

*Studies in diabetes mellitus. VI. Mortality and longevity of diabetics. E. P. Joslin, L. I. Dublin and H. H. Marks. —p. 596.

*The coexistence of myxedema and pellagra in the same patient. J. A. Greene.—p. 618.
*Specific dermatoses due to vitamin A deficiency. J. B. Youmans and M. B. Corlette.—p. 644.

Vol. 195, June 1938

*Observations on the etiology of the toxemias of pregnancy. IV. The primary rôle of the plasma proteins in conditioning water retention and edema formation in normal and "toxemic" pregnancy. M. B. Strauss.—p. 723.
*Manipulation of glucose tolerance by diet. E. P. McCullagh and C. R. K. Johnston.—p. 773.
*Dietary versus insulin treatment of the obese diabetic patient. F. Fetter, J. K. Durkin and G. G. Duncan.—p. 781.

DIABETES MELLITUS. There has been a continuous decline in the death rate of diabetics. Marked increases in the expectation of life occurred, the greatest gains being found in children. The death rate of diabetics is still much in excess of that for the general population.

MYXEDEMA AND PELLAGRA. Two cases of coexistent pellagra and myxedema are reported. The manifestations of one, which may facilitate the production of the other, are discussed.

DERMATOSES DUE TO VITAMIN A DEFICIENCY. The occurrence of dermatoses due specifically to a deficiency of vitamin A is reported, together with illustrative case reports.

TOXEMIAS OF PREGNANCY. Water retention is present to a greater or less degree in a large proportion of women during the last trimester of pregnancy. It may amount to 10 per cent of body weight. Water retention is primarily conditioned by the level of plasma proteins; 1500 cc. of skimmed milk daily will result in elimination of water retained.

GLUCOSE TOLERANCE. Cases of chronic hypoglycemia show a consistent decrease in tolerance following the use of low carbohydrate, high fat diets. Subsequently, in two cases, increased tolerance followed the use of high carbohydrate, low fat diets. Cases of mild diabetes showed an increased tolerance on high carbohydrate, low fat diets. A knowledge of dietary habits is necessary for proper clinical evaluation of the glucose tolerance test.

OBESE DIABETIC PATIENT. Case histories of obese diabetic patients are presented which show that the great majority of such patients, particularly those 40 per cent or more overweight, do not need insulin. When put on a low calorie diet and body weight reduced, the blood sugar falls to normal without insulin.

Archives of Internal Medicine

Vol. 61, April 1938

*Metabolism of vitamin C in rheumatoid arthritis. J. F. Rinehart, L. D. Greenberg, F. Baker, S. R. Mettier, F. Bruckman and F. Choy.—p. 537.
*Metabolism of vitamin C in rheumatic fever. J. F. Rinehart, L. D. Greenberg, M. Olney and F. Choy.—p. 552.

VITAMIN C IN ARTHRITIS. The cevitamic acid level of the blood plasma during fasting is almost uniformly and severely lowered in rheumatoid arthritis. Chronic deficiency of vitamin C is an important factor in the etiology of this disease. Some patients present a fundamental fault in vitamin C metabolism.

VITAMIN C IN RHEUMATIC FEVER. The cevitamic acid content of the blood plasma is uniformly low for patients with acute rheumatic fever. Data indicate that vitamin C deficiency commonly exists in rheumatic fever, and may be of etiologic significance.

Archives of Pediatrics

Vol. 55, April 1938

*Sodium thiosulphate in the treatment of allergy. J. E. Klein.—p. 197.
*The effect of vitamins and minerals on the nutrition of children. A. T. Privitera.—p. 206.
An outline for the diagnosis and treatment of allergic diseases of the child. A. E. Karlstrom, R. E. Cutts and A. V. Stoesser.—p. 233.

Vol. 55, June 1938

*Hemorrhage of the brain in scurvy. E. Shapiro and S. Hurwitz.—p. 327.
The vitamins—a brief outline. H. Goodman.—p. 372.
*The fat youngster. I. Bram.—p. 381.

SODIUM THIOSULPHATE IN ALLERGY. Anaphylactic phenomena are due to an alteration in colloids of tissue fluids and blood plasma wherein the usually finely dispersed particles are agglutinated and form precipitates in the perivascular lymphatics and tissue spaces. A flocculation of these altered colloid particles in the lungs causes asthmatic symptoms; in the brain, it results in epilepsy; in the skin, it induces urticaria, etc. Treatment should be

aimed at dissolving or breaking up this abnormal state of the colloids and on the basis of experimental studies sodium thiosulphate appears to be effective. It may be given intravenously and orally for allergic epilepsy, migraine, urticaria, and severe serum reactions. For hay fever and gastrointestinal food allergy it may be given orally and hypodermically.

VITAMINS AND MINERALS. The addition of a mineral-vitamin supplement to a good diet fed to 50 normal children produced an increase in weight, twice that expected, over a period of 6 months. Only two new cavities appeared. Another group of 50 normal children fed a good diet showed a weight increase of 3.4 pounds instead of the expected increase of 3.2 pounds for the six-months period. Nine new cavities developed in this group.

BRAIN HEMORRHAGE IN SCURVY. A discussion of three proved cases of brain hemorrhage in infantile scurvy shows that hemorrhage accompanying vitamin C deficiency is due to capillary fragility and increased permeability of the vessel caused by weakening of the intercellular substances. Very rapid pulse often occurs in even less severe cases of infantile scurvy.

THE FAT CHILD. Unless proper treatment is instituted before the tenth or twelfth year of life, overweight in the growing child may develop into submyxedema or Fröhlich's syndrome in the adult. The administration of thyroid substance is a valuable therapeutic test in endogenous obesity. The basal metabolic rate during puberty may be 10% below normal and therefore is of little value except for comparative checking of the effect of thyroid medication. Administration of desiccated thyroid is second to diet as treatment. In cases of extreme obesity which respond slowly to other treatment a temporary status of therapeutic hyperthyroidism may be induced. The basal metabolic rate should not go over +15. Periodic treatment throughout 3 or 4 years may be necessary until the bodily nutritional habits remain perfectly normal. In Fröhlich's syndrome thyroid medication may be supplemented by anterior pituitary substance.

Food Research

Vol. 3, May-June 1938

*Stability of vitamin D in irradiated evaporated milk. C. H. Krieger and H. T. Scott.—p. 283.

A study of comparative methods and media used in microbiological examination of creamery butter. G. W. Shadwick, Jr.—p. 287.

*Types of bacteria surviving in frozen-pack vegetables. A. G. Lochhead and A. H. Jones.—p. 299.

Changes in iron content of musts and wines during vinification. E. M. Mrak and J. F. Fessler.—p. 307.

*Vitamin C content of vegetables IX. Influence of method of cooking on vitamin C content of cabbage. M. Wellington and D. K. Tressler.—p. 311.

Lactic acid-producing bacteria in fermentations and food spoilage. C. S. Pederson.—p. 317.

Heat-resistance studies on spores of putrefactive anaerobes in relation to determination of safe processes for canned foods. C. T. Townsend, J. R. Esty and F. C. Baselt.—p. 323.

Salmonella food poisoning—infection or intoxication? G. M. Dack and E. Davison.—p. 347.

A study of certain reducing substances in citrus fruits. J. B. DeWitt and B. Sure.—p. 351.

*Iodine content of some Ohio vegetables. C. Dietz.—p. 359.

STABILITY OF VITAMIN D IN IRRADIATED EVAPORATED MILK. From the data reported it appears that there is little or no loss in the vitamin D potency of irradiated evaporated milk when stored for two to three years under moderate temperature changes. In no instance was there any loss whatsoever during the first year. BACTERIA SURVIVING IN FROZEN-PACK VEGETABLES. There was no definite evidence that spore-forming rods were proportionately more numerous in frozen than in freshly packed vegetables. It was found, however, that organisms developing at 37°C. were proportionately the most resistant, and those developing at 4°C. the least resistant to freezing.

VITAMIN C CONTENT OF VEGETABLES. As determined by the 2,6 dichlorophenol indophenol method, raw Glory cabbage was found to contain about .32 mg. of ascorbic acid per gm., and therefore can be considered a good source of vitamin C. Boiling destroyed less than one-sixth of the original ascorbic acid. However, when finely shredded cabbage was used, about two-thirds of the ascorbic acid was extracted by the cooking water. When larger pieces of cabbage were boiled, the amount extracted was less. Steamed cabbage contained more ascorbic acid than drained, boiled cabbage. Although the amount of ascorbic acid destroyed was larger than in boiling, very little was extracted by condensing steam. About one-third of the original ascorbic acid was destroyed in panning cabbage. Since no additional water was used for cooking, there was no loss by extraction. Therefore the

panned cabbage itself contained about two-thirds of its original ascorbic acid content.

IODINE CONTENT OF VEGETABLES. The iodine content of leaf lettuce, tomatoes and asparagus are reported.

Journal of Biological Chemistry

Vol. 123, May 1938

*The essential nature of arginine in the diet of the chick. A. A. Klose, E. L. R. Stokstad and H. J. Almquist.—p. 691.

*A study of the proteins of the inactive and active mammary gland. S. M. Jackson and R. A. Gortner.—p. 719.

Vol. 124, June 1938

*The protein content of the organs and tissues of the body after administration of thyroxine and dinitrophenol and after thyroidectomy. T. Addis, D. Karnofsky, W. Lew and L. J. Poo.—p. 33.

*On the cause of the elevation of serum phosphatase in jaundice. S. Freeman, Y. P. Chen and A. C. Ivy.—p. 79.

*The fate of plant sterols in the intestinal tract. F. L. Breusch.—p. 151.

*The inactivity of nicotinic acid in chick dermatitis. O. Mickelsen, H. A. Waisman and C. A. Elvehjem.—p. 313.

ESSENTIAL NATURE OF ARGININE. Tryptophane, histidine, and arginine are all essential for the chick. Neither ornithine, urea nor a combination of the two was able to replace arginine in the diet. Twenty per cent casein in the diet does not supply an adequate amount of arginine for the normal growth of the chick.

PROTEINS OF MAMMARY GLAND. Inactive mammary glands contain more albumin than globulin but this ratio is markedly reversed for active glands. A relatively high protein phosphorus content is apparently indicative of glandular activity. Differences between protein tissues of active and inactive glands appear to be reflected in their physical properties rather than by differences in their amino acid composition.

PROTEIN OF ORGANS AND TISSUES. The proportion of the total body protein found in the heart, kidneys, and liver was determined in control rats and in groups of rats whose metabolic rate had been increased by the administration of thyroxine and dinitrophenol. The protein content was increased by thyroxine but no definite change was found after dinitrophenol. In thyroidectomized rats the proportion of total body protein in the heart and kidney was less than in the controls.

SERUM PHOSPHATASE IN JAUNDICE. Serum phosphatase is increased in liver injury and obstruction. The phosphatase contained in bile originates in the liver. Its presence in excessive amounts in the circulation during liver diseases indicates the leakage of phosphatase as a biliary constituent into the blood stream. A rise in serum phosphatase is a more sensitive indicator of hepatic injury than a rise in serum bilirubin.

FATE OF STEROLS IN INTESTINAL TRACT. A mouse synthesizes about 3 mg. of cholesterol per day. On addition of 12 mg. of cholesterol daily to the diet, there was not only no synthesis and but slight destruction which probably occurred after absorption in the organs.

NICOTINIC ACID IN CHICK DERMATITIS. Chick dermatitis, produced by feeding a heated ration of natural grains and casein, cannot be cured or prevented by nicotinic acid or nicotinic acid amide. Liver extract contains a factor necessary for the prevention of a typical dermatitis in chicks which is separate and distinct from vitamin B_1, vitamin B_6, flavin, nicotinic acid, and factor W. It is proposed that it be termed the chick antidermatitis factor until a more suitable name can be applied.

Journal of Clinical Investigation

Vol. 17, May 1938

*The effect of vitamin D on calcium and phosphorus metabolism; studies on four patients. F. Albright and H. W. Sulkowitch.—p. 305.

VITAMIN D AND CALCIUM METABOLISM. Metabolic studies performed on a patient under treatment for rickets showed that calcium in the diet has more influence on phosphate absorption than phosphate in the diet has on calcium absorption. Three patients with idiopathic hypoparathyroidism showed a falling serum inorganic phosphorus level after vitamin D therapy.

Journal of Nutrition

Vol. 15, May 1938

*The effect of varied vitamin B ingestion upon the appetite of children. F. W. Schlutz and E. M. Knott.—p. 411.

Studies on the vitamin B_1 requirements of growing rats. A. Arnold and C. A. Elvehjem.—p. 429.
*The basal metabolism in pregnancy. J. A. Johnston, H. A. Hunscher, F. C. Hummel, M. F. Bates, P. Bonner and I. G. Macy.—p. 513.

Vol. 15, June 1938

*The effect of enhanced iodine intake on growth and on the thyroid glands of normal and goitrous rats. R. E. Remington and J. W. Remington.—p. 539.
*The rôle of vitamin D in the control of dental caries in children. E. C. McBeath and T. F. Zucker.—p. 547.
*The specific dynamic effects of proteins when added in different amounts to a maintenance ration. M. Kriss.—p. 565.
*The influence of the diet and energy intake upon acute vitamin B_1 deficiency in the rat. G. A. Schrader and C. O. Prickett.—p. 607.

VITAMIN B AND APPETITE IN CHILDREN. Factors affecting appetite have been studied through food consumption records for children, age 4 to 10. Following control periods, the vitamin B intake of both groups was increased by means of: first, stabilized wheat germ; and second, crystalline vitamin B. The vitamin B contents of the regular diets averaged from 260 to 420 I.U. per day, while the supplements of wheat germ and crystalline vitamin B furnished from 120 to 200 additional units. A supplementary ingestion of approximately 150 units produced increases of from 17 to 25% in the grams of food consumed per child per day. The higher levels of vitamin B produced no apparent ill effects, did not force the growth, and did tend to stabilize appetites.

BASAL METABOLISM IN PREGNANCY. Data are recorded on the basal metabolism of a young primipara whose mineral balance was determined concurrently. Results favor the view that the changes, to a large extent understandable as a result of the formation of a new protoplasmic mass as evidenced by the parallelism between the cumulative nitrogen and sulfur balances and the basal heat production, are at the same time under a hormonal influence contributing to this same synthesis.

EFFECT OF IODINE ON GROWTH. The presence of 265 micrograms of iodine per kilogram in an otherwise well-balanced diet is sufficient to protect growing rats from iodine deficiency as evidenced by changes in the thyroid gland. Iodine in the diet, up to 50 to 100 times the minimal protective dose, does not affect growth or utilization of food for growth. If iodine enriched diets are fed to rats with enlarged and hyperplastic thyroids, the gland tends to return to normal weight and dry matter content, but such glands can store more iodine than normal ones.

VITAMIN D AND DENTAL CARIES. In a study of over 800 children it was found that the incidence of dental caries was seasonal, with high values in late winter and early spring and very low values during summer. The administration of vitamin D milk resulted in graded caries prevention. Of the three levels given (250, 400 and 800 I.U. per day), only the last named was adequate to prevent an increase during the height of the caries season above that of the previous season. Fortifying the diet with "protective foods" or simply increasing allowances of milk led to a moderate reduction in caries when no appreciable vitamin D was added. Individual susceptibility to caries is negligible compared to the effect of nutritional factors.

SPECIFIC DYNAMIC EFFECTS OF PROTEINS. The specific dynamic effects of dried heart muscle, casein and gelatin were determined in rats. The heat production on the maintenance ration was used as the base value. Of the three protein supplements tested, casein showed the greatest and heart muscle the smallest dynamic effect. An inverse relation was observed between the nitrogen retention, caused by the protein supplements, and their dynamic effects expressed as percentages of their metabolizable energy.

ACUTE VITAMIN B_1 DEFICIENCY. The effectiveness of a diet in producing the neuromuscular symptoms of acute vitamin B_1 deficiency in the young rat varied decidedly with the nature of the non-protein constituents of the diet. The most effective diets studied were those in which carbohydrate and fat each furnished approximately half of the non-protein source of energy. About 90% of the rats on these diets developed neuromuscular symptoms, the appearance of the symptoms being influenced by both method of feeding and the nature of the non-protein dietary constituents.

Journal of the American Dental Association and Dental Cosmos

Vol. 25, May 1938

*Dental caries and paradental disturbances. II. The seasonal incidence of dental caries. S. F. Erpf.—p. 681.

Vol. 25, June 1938

*The nutrition history and its relation to dental problems. N. Simmonds.—p. 926.

DENTAL CARIES. There was a marked and regular variation in the incidence of caries observed in a group of 143 patients residing in San Francisco and its environs. The pronounced fluctuation in intensity of ultraviolet content of sunlight is opposite in phase to the fluctuation of caries incidence.

NUTRITION HISTORY. A detailed nutritional history which would give the dentist a better understanding of the health and diet of his patients is outlined. A sample day's menu is included.

Journal of the American Medical Association

Vol. 110, May 7, 1938

*The nature of xanthomatosis. Editorial.—p. 1609.

Vol. 110, May 14, 1938

*Vitamins in relation to the prevention and treatment of pellagra. W. H. Sebrell.—p. 1665.

Vol. 110, May 21, 1938

The chemistry of vitamin A and substances having a vitamin A effect. L. S. Palmer.—p. 1748.
*Locus of deaminization. Current comment.—p. 1757.

Vol. 110, May 28, 1938

*Vitamin E. H. A. Mattill.—p. 1831.

Vol. 110, June 4, 1938

*Vitamin A requirements and practical recommendations for vitamin A intake. L. E. Booher.—p. 1920.
*Human requirement for vitamin C. Current comment.—p. 1928.

Vol. 110, June 11, 1938

*Metabolic studies on patients with gout. J. H. Talbott and F. S. Coombs.—p. 1977.
*Vitamin D complex in keratoconus. A. A. Knapp.—p. 1993.
*Circulation of bile and synthesis of hemoglobin. Editorial.—p. 2011.

Vol. 110, June 18, 1938

*Nicotinic acid in the prevention of pellagra: a preliminary note. H. L. Schmidt and V. P. Sydenstricker.—p. 2065.
*Vitamin A. O. A. Bessey and S. B. Wolbach.—p. 2072.
*Deposition of lipids in liver. Editorial.—p. 2084.

Vol. 110, June 25, 1938

The chemistry of vitamin D. C. E. Bills.—p. 2150.

NATURE OF XANTHOMATOSIS. The syndrome xanthomatosis is a manifestation of disturbed lipoid metabolism. The fat substances in the lesions are the doubly refractile lipids, cholesterol and cholesterol esters. Hypercholesterolemia is a necessary condition for the production of xanthomatosis.

PELLAGRA. Riboflavin is not the pellagra-preventive vitamin but it may be a dietary essential. Nicotinic acid hastens recovery from pellagra but it may not be the sole major deficiency in all pellagra-producing diets. The essentials in the treatment of pellagra consist of a high calorie diet containing a quart of milk, lean meats, liver, and other foods rich in the pellagra-preventive vitamin, 30 to 200 gm. or more of pure dried powdered yeast, liver extracts, and careful, individual nursing care. The widespread distribution of powdered yeast, either free or at the lowest possible price, is the most effective method of immediate control known. Permanent control can be obtained only by effecting permanent changes in dietary habits.

LOCUS OF DEAMINIZATION. In the course of metabolism, the nitrogen of the absorbed amino acids is removed, converted to urea and largely excreted in this form. The liver, by virtue of its large relative mass, is considered the most important site of deaminization of amino acids but the kidney and the intestinal wall also play a part. The actively secreting mammary gland produces considerable quantities of urea, presumably from the metabolism of amino acids.

VITAMIN E. At least three substances have an effect like vitamin E, although their chemical nature is not entirely understood. Vitamin E is necessary for normal embryonic growth in the rat and mouse; and it may be a limiting factor in the hatchability of eggs. One manifestation of vitamin E deficiency is a first-week embryonic mortality. Definite proof of the value of vitamin E as a remedy for sterility in human beings is lacking. The value of vitamin E in habitual abortion has been demonstrated. A well balanced diet includes many foods containing vitamin E.

VITAMIN A INTAKE. The daily requirement of vitamin A just sufficient for the prevention of night blindness in a normal adult varies from

20 to 30 U.S.P. units per kilogram of body weight, or a total of 1400 to 2000 units for an adult weighing 70 kg. Allowing for a fair margin of safety and for storage a total of 3000 units of vitamin A daily is suggested for the normal adult. A large proportion of this vitamin A allowance can be provided by milk, butter, eggs and green leafy vegetables. Six to 8000 units of vitamin A daily for the growing child should take care of any extra needs associated with growth and development. A small supplement of some fish liver oil in addition to liberal quantities of whole milk, butter, eggs and green leafy vegetables is recommended for children. Particular attention should be paid to supplying the normal infant, the premature and the artificially fed infant with liberal quantities of vitamin A since infants are born with meager stores in their livers. The recommended allowance of vitamin A for pregnant and nursing women has been set at around 5000 units or more daily.

REQUIREMENT OF VITAMIN C. Determinations of vitamin C requirement of human beings have indicated that the necessary daily dose for a normal adult of 70 kg., is as high as 60 mg. This quantity, corresponding to the cevitamic acid content of about 4 oz. of lemon juice, is probably excessive, judging from the reports of others. The varying results of different laboratories could probably be brought into harmony if distinction is made between actual requirement and indispensable minimum.

GOUT. The increased concentration of uric acid in the blood of 24 patients with gout is believed to be a function of increased formation rather than of diminished excretion or destruction. In asymptomatic periods, the prolonged use of a low purine and a low protein diet seems to possess no particular merit. A diet adequate in protein, carbohydrate, fat, vitamins, minerals and fluids is suggested for most patients with this disease.

VITAMIN D IN KERATOCONUS. The calcium-phosphorus metabolism is an important factor in the development of the cornea. The lack or deficiency of these metabolic factors favors weakness of the membrane. This weakness then manifests itself as a primary, non-inflammatory ectasia of the cornea. The administration of vitamin D and calcium in this condition has given gratifying results.

BILE AND HEMOGLOBIN. A constant secretion and absorption of bile from the intestinal tract is necessary for a normal rate of iron metabolism. Lack of adequate bile circulation cannot be compensated for by oral administration of bile. Iron given by mouth is only partially effective.

NICOTINIC ACID IN PELLAGRA. Nicotinic acid in doses of 100 mg. twice a week was not effective in preventing relapse in 16 chronic pellagrins. A small daily dose may prove more effective or even entirely satisfactory. It is unlikely that nicotinic acid will prevent relapse indefinitely in chronically malnourished individuals without some improvement in the diet.

VITAMIN A. Vitamin A, an essential part of the biochemical machinery of all vertebrates, is a derivative of carotenoid pigments from plants. Most animals have a remarkable capacity for storage of vitamin A. A rat may in a few days store enough vitamin A to supply its nutritional needs for several months. Approximately 95% of the total vitamin A in the body is present in the liver; small but detectable amounts appear in the lungs and kidneys. Accumulation of vitamin A in the liver tends to increase with age and is dependent on the character of the diet. Absorption and utilization of vitamin A and carotene are affected by quantity administered and manner of administration, the influence of other substances, the degree of saturation of the body and the general physiologic conditions of the alimentary tract. Under ordinary circumstances of moderate intake, carotene is slightly less efficient than vitamin A but when rapid storage of vitamin A is desired or when there is intestinal disturbance, products such as eggs, milk and fish liver oils are preferable to carotene. Surprisingly low reserves of vitamin A in the newborn necessitate an adequate intake of vitamin A during infancy.

DEPOSITION OF LIPIDS IN THE LIVER. The liver is essential for the normal metabolism of the three so-called proximate principles: pro-

teins, carbohydrates and lipids. An increase in the quantity of liver lipids in normal animals can be produced by administration of diets containing either a high cholesterol or a high fat content. Accumulated experimental evidence suggests the importance of endocrine influence in regulating the quantity of liver lipids.

Mental Hygiene

Vol. 22, April 1938

*The psychological hygiene of infant feeding. A. Gesell. —p. 216.

INFANT FEEDING. All normal infants in their behavior development tend to follow an ontogenic sequence which is characteristic of the species. The supervision of infant feeding must take primary account of maturity differences and recognize individual differences. If the infant is given some opportunity to express his organic needs for food and sleep, himself, the cycle of the behavior day assumes distinctive patterns in different infants. It is wise to give the infant a lead in initiating variations from day to day, because through these he tests and achieves his powers.

Public Health Reports

Vol. 53, May 1938

*Studies on dental caries. I. Dental status and dental needs of elementary school children. H. Klein, C. E. Palmer and J. W. Knutson.—p. 751.

Vol. 53, June 17, 1938

*Effects of intramuscular injections of vitamin B_1 on acute leprous neuritis and of oral administration on the general disease. L. F. Badger and D. W. Patrick.—p. 969.

DENTAL CARIES. Dental caries is a physical impairment which exceeds in prevalence all others known to occur in children of the United States. Although the use of the toothbrush, dietary regulation, prophylactic odontotomy, and the application of chemiotherapy have been suggested and advocated, no effective method for the control and prevention of caries has been accepted other than the replacement of the carious tooth structure by chemically stable filling materials. A survey made in Hagerstown, Maryland, of the teeth of grade school children, is reported. Suggestions for providing more nearly adequate dental care are given.

VITAMIN B_1 IN ACUTE LEPROUS NEURITIS. A small series of cases of acute leprous neuritis have been treated with intramuscular injections of vitamin B_1 with rather spectacular results. Oral administration was ineffective. Further study is necessary before the value of such treatment can be determined definitely. No improvement was noted following administration over a 6-month period, either of large doses of brewers' yeast or of vitamin B_1 concentrate.

Wisconsin Dietitian

Vol. 1, April 1938

*Vitamin C and tuberculosis. M. L. McClung and T. Goetz.—p. 1.

VITAMIN C AND TUBERCULOSIS. A staff physician and the dietitian of the Veterans Administration Facility at Wood, Wisconsin, discuss the rôle of vitamin C in tuberculosis. In this condition, there is increased requirement for cevitamic acid *per se*; moreover, vitamin C aids in the utilization of the phosphorus and calcium content of the diet. Diets for the tuberculous therefore should include sizable amounts of vitamin C. For these reasons, tuberculous patients in the Facility had been receiving large quantities of citrus fruits 3 to 5 times weekly and daily "between meal" drinks of citrus fruit juices. Nevertheless, the patients showed a deficiency in vitamin C as determined by various reliable tests, indicating the need for an extra-dietary supply. Vitamin C tablets and Cal-C-Tose 'Roche' were administered to satisfy the vitamin C requirement, and the patients both gained in weight and experienced an increased sense of well-being. The authors stated "many patients whose condition has been stationary for months have demonstrated a rather marked improvement in their tuberculous condition." Cal-C-Tose was found to be useful in the treatment of tuberculosis as an adjunct to the usual diet, and also as a particularly effective substitute for citrus fruit juices at times when their cost is high or when they are otherwise difficult to obtain in proper potency. They comment that its value is due to its adequate, well-balanced content of vitamins C, B, and calcium.

INSTITUTION MANAGEMENT

The Horwath Hotel Accountant

Vol. 18, May 1938

*Analysis of table d'hote dinners.—p. 14.
Trend of food and beverage costs.—p. 6.
Food and beverage costs.—p. 7.

Vol. 18, June 1938

*Rooms Linen.—p. 3.
*Checking table d'hote meals.—p. 6.
*Room and restaurant payrolls.—p. 6.
*Food and beverage costs.—p. 7.

MENU ANALYSIS. Tabulations are presented from a monthly account of table d'hote dinners served in a large transient hotel. The average check amounted to $1.78 with dinners available from $1.50 to $3.50. The ratio of each number sold to the total dinners proved to be highest for the $1.50 dinners. Analysis by courses of the dinners sold shows sea food to be the most popular appetizer; poultry, beef, and sea food the most popular entrées; ice cream the favorite dessert; and coffee the favorite beverage. A further breakdown of the entrées according to the price of the dinner, total portions sold, number of times on the menu during the month, and the average number of entrées sold each time, gives additional data upon which to base the daily menus.

ROOMS LINEN. Averages summarized from data charts of 20 hotels on room linen are as follows: ratio of linen cost to room sales, 1.34%; cost per occupied room a day, $.039; investment per available room, $28.37; annual cost of bed and bath linen, $15.00; and the annual cost of replacing all pieces, $8.58 per bed, depending on standard set-up. It was found that the maintenance cost was highest on sheets and bath towels. Sheets lasted about 2½ years, pillow cases 2 years, bedspreads 4 years, bath towels 1½ years and face towels 1 year.

CHECKING TABLE D'HOTE MEALS. A method of checking table d'hote meals in two New York City hotels is to have the waiter write only the main course of the dinner choice on his check. The checker prices the meal and imprints check with table d'hote stamp. This includes letters for the names of the courses and numbers for the various choice items.

ROOM AND RESTAURANT PAYROLLS. The ratios of service payrolls in the rooms and restaurant departments of four transient hotels with 400 to 500 rooms each are compared. The ratio of total room payroll to total room sales lies between 21.17% and 24.0% and the ratio of total restaurant payroll to total restaurant sales varies from 27.4% to 35.5%.

FOOD AND BEVERAGE COSTS. Food costs per dollar sale show substantial reductions from the corresponding months of last year, in line with the sharply lower market on food commodities. The cut in total cost March 1938 from March 1937 was 5%, while the decline in the wholesale food price index was 16%. Three quarters of all hotels had food costs lower than a year ago. Beverage costs were 2% lower than in March 1937.

Hospitals

Vol. 12, May 1938

Hospital personnel policy. A. F. Emch.—p. 43.
*Sportsmanship in hospital buying. W. S. McNary.—p. 83.
*Pest extermination. J. L. MacFarland. p. 92.
*Food service in the hospital. A. B. Lothe.—p. 96

Vol. 12, June 1938

Floor maintenance. J. G. Deacon.—p. 41.
Diet and nutrition. W. C. Alvarez.—p. 43.
Paint.—p. 51.
*Orange juice.—p. 72.
*Tighten your belt.—p. 85.

HOSPITAL BUYING. Excellent discussion of the principles of good buying. Explains four simple rules: pick your sources of supply carefully; be honest; be courteous; remember your whole loyalty is to your employer.

PEST EXTERMINATION. The method of allotting this duty to the housekeeping department and providing the necessary equipment and supplies saves from 90–95% of the contract price of professional exterminators. The success of delegating such responsibility to this department is dependent upon the training and dependability of the houseman assigned to the task.

FOOD SERVICE. The aim of any dietary department is to give maximum service consistent

with efficiency and economy. Evaluates trends in types of service for patients and for personnel; discusses centralized and decentralized tray service, and a selective menu and cafeteria service for personnel. A suggested ideal budget for the dietary departments lists food at 60%; payroll, 30%; supervision, 3.5%; replacement, 2.0%; repairs and cleaning materials, 2%; paper goods, etc., 1%; and profit, 1.5%.

ORANGE JUICE. Generally speaking, the smaller the orange the larger the amount of juice it yields per case. The Valencia and other thin-skinned varieties yield more juice. Average minimum yield is 14 qts. of juice per case with yield increasing as season advances until California oranges give peak of 23 quarts in October and Florida oranges reach a peak of 21 quarts in March. Yield gradually decreases until end of season in both localities.

BUDGETING HOSPITAL DOLLAR. The dietary department spends about half of the hospital dollar. Labor turnover and returned food are two large items of waste. Increase in pay to prevent labor turnover may effect a saving. An increase in the number of supervising dietitians may also increase the savings in the end.

Hospital Management

Vol. 45, April 1938

*New methods of meat cookery. I. S. Willson.—p. 33.
Meat in menu planning.—p. 36.
Quantity recipe file.—p. 36.

Vol. 45, May 1938

Food service. M. Oswald.—p. 35.
March food prices decrease.—p. 41.

MEAT COOKERY TODAY. Well defined methods of meat cookery have resulted from work done in research laboratories. Discusses the value of the basic principle of a moderate temperature used in all meat cookery, whether roasts, broiling, or moist heat as in pot roast. The importance of temperature control and use of the meat thermometer is stressed. The thermometer, registering internal temperature, is the only reliable control for securing roasts of uniform doneness in institution kitchens.

Hotel Management

Vol. 33, May 1938

Chart of inspection. H. M. Berman.—p. 467.
Exit one convention—enter another. C. Meyer.—p. 468.
*Food profits in small hotels. R. J. Kief.—p. 474.
Merchandising calendar.—p. 478.
*We cut laundry costs $9,000. E. A. O'Neill.—p. 479.
101 practical tips on construction and modernization.—p. 484.
Business-building tips from a Canadian mountain resort. W. O. Voegele.—p. 486.
Greens in the salad bowl.—p. 525.
Calendar of good salads. A. Easton.—p. 526.
Selling salads more.—p. 530.
Salads for society.—p. 532.
50 ways to make profitable salads.—p. 534.
Wellington salad wagon.—p. 536.
Salads new in taste and service.—p. 538.

Vol. 33, June 1938

*How to hire a chef. Editorial.—p. 585.
*We go south for good ideas. Editorial.—p. 586.
Making the hotel laundry pay for itself.—p. 594.
Melody Lane strikes new note in restaurant. S. Hoedemaker.—p. 594.
Merchandising calendar.—p. 603.
*Stop fires. L. F. Maar.—p. 608.
*Atlantic City trains food workers. M. C. Richmond. P. L. Miller.—p. 615.
Ideas from a thousand menus.—p. 643.
Calendar of good salads. A. Easton.—p. 646.
Twenty specials for summer menus.—p. 648.

FOOD PROFITS. Individualizing the restaurant of the Hotel Sheldon-Munn, Ames, Iowa, has increased the sale of light, quickly served food to travelers. The success is due to strict adherence to an established mode of cookery, type of service and menu pricing, with menus featuring freshly made sandwiches, crisp salads and appetizing cold plates.

LAUNDRY COSTS CUT. The Wardman Park Hotel, Washington, D. C., reduced the cost of operating the laundry by a change in policy and employment of a trained manager, and turned this department into a financial asset. The careful distribution of employees' work, the organization of production methods, the control of supplies and the daily cost accounting of laundry operations were some of the practices initiated.

HOW TO HIRE A CHEF. A highly developed sense of taste; knowledge of recipes, sauces, garnishes, temperatures, cuts and portions of meat; scrupulous and orderly habits of work; originality; ability to handle employees; and the making of interesting and profitable menus are qualifications of a good chef. One firm hires a chef from a smaller house after having eaten his food, studied his menus, seen his recipes, record or training, learned about his family life, and

after he has passed a rigid physical examination.

WE GO SOUTH FOR GOOD IDEAS. Many suggestions found in southern restaurants and cafeterias are given, such as: finger bowl service with a grapefruit and fish course; a table card giving the waitress' surname; a wringer regulated to shell peas; a sign inviting customers to visit the kitchen of the restaurant; and even a chute to carry discarded oyster shells to the basement.

STOP FIRES. In a check list for fire prevention prepared by the Safety Research Institute, fires are classified as being chiefly due to three causes; namely, ordinary combustible materials, inflammable liquids and greases, and fire in electrical equipment.

ATLANTIC CITY TRAINS FOOD WORKERS. With its vocational schools, Atlantic City is solving its unemployment problems and taking its place with Camden and Bayonne in the training of service employees for hotels and restaurants. It has the support of the city's hotel association who made the first study of the possibilities and the extent and type of training to be given. From the initial waitress training, courses have been developed to cover all features of dining room service, and commercial cookery.

The Hotel Monthly

Vol. 46, May 1938

*Country inn accommodations. Editorial.—p. 20.
*Women's work widening in hotel. E. Gould.—p. 27.
*Vocational training—Waldorf Astoria's "School of Cooking". Editorial.—p. 28.
Cross country stages and air conditioning. Editorial.—p. 35.
A modern feature in an old Swedish hotel. H. Clarke.—p. 43.

COUNTRY INNS. Guthrie Inn, Dupont, Indiana, is the new type of country inn operated by trained personnel who know how to greet, house and feed the touring public. Their standards typify a fine old-fashioned country home furnished in the best of taste, offering hospitality to a limited number at reasonable cost.

WOMEN IN HOTEL WORK. Statistical data shows the tremendous strides that have been made in the hotel industry by women in the past ten years, first as housekeeper, then as hostess, and later as playground instructress. Women are now employed as catering managers, promotion executives, assistant managers, auditors, and in some cases as managers of sizeable hotels in metropolitan centers.

TRAINING CHEFS. Lucius M. Boomer, president of the Waldorf-Astoria, is outstanding among those who have acted constructively with regard to the subject of vocational training of hotel employees. The initial group admitted to the two-year course of the Chef's School for apprentice training consisted of six men who had successfully passed a three months' trial with rigid adherence to rules. Each student spent a month or more on each of the following stations in the Waldorf-Astoria Hotel: pastry, ice cream, vegetable, boiling stock, help's cooking, soup, *garde manger*, butcher, *entremet*, sauce, fish and storeroom. After which, according to the ability of the apprentice, he repeated training in the various stations or was given more time on the station to which he was best adapted. The group was initiated by Chef Gabriel Lugot and the second group at certain stages were taught by the advanced students in the last half of their second year of training. Requirements for admission, age, health, wages and conduct were definitely specified and strictly adhered to during the entire training period.

Journal of Home Economics

Vol. 30, May 1938

*Labeling in Texas. M. A .Grimes.—p. 293.
*Consumer problems in home furnishing. H. M. Thompson.—p. 297.
The department of home economics in the national education association of the United States. F. J. G. Winning.—p. 301.
Pittsburgh, June 28 to July 1. Editorial.—p. 331.
Report of the advisory committee on education. Editorial.—p. 334.

Vol. 30, June 1938

Mary Hinman Abel—1850 to 1938.—p. 361.
*Consumer purchases and family incomes. F. Williams.—p. 376.
Home economics service in rural areas. L. Hatcher.—p. 376.
Home economics in Pennsylvania colleges. L. W. Drummond.—p. 393.
*Turkish towels and specifications. M. B. Hays.—p. 395.
American association for health, physical education and recreation.—K. M. Ansley.—p. 396.
Pittsburgh, June 28 to July 1. Editorial.—p. 398.
Food, drug, and cosmetic act. Editorial.—p. 401.
Child Labor Legislation. Editorial.—p. 401.

The seventh international management congress. Editorial.—p. 402.
*A service study of four qualities of cotton turkish towels. R. E. Rogers, M. B. Hays.—p. 406.

LABELING IN TEXAS. A two-year investigation was conducted by a committee on standardization of consumer goods of the Texas Home Economics Association. State and out of state products were compared as to types of labels and other information readily available to the consumer collected through questionnaires, a study of labels and the cooperation of a few of the manufacturers in Texas.

FURNITURE AND FURNISHINGS. The West Annex of the Girls' Dormitory of the University of Alabama was built in 1937. The School of Home Economics planned color schemes, wall finishes, woodwork, floors and wrote the specifications for all furniture and furnishings on which competitive bids were based. Examples are given of general specifications for all wood bedroom furniture; lounge furniture, mirrors, and student lamps. Defects to be avoided, caused by materials, construction or imperfect workmanship, are carefully described.

CONSUMER PURCHASES AND FAMILY INCOMES. A very broad and coordinated study of consumer purchases provides the nearest approach to a complete picture of American levels of living. The complete study will soon be published in three bulletins, the first covering data on income, occupation and family composition; the second covering summaries of family expenditures and savings; and the third giving the details of family expenditures for specific commodities. Median incomes for native-born white families not having been on relief in the 32 cities covered by Bureau of Labor Statistics range from $1166 to $2015. In cities where negro families are included, median incomes range from $460 to $1350. When relief families are included the median income figures become distinctly lower. The housing expense is a major item of economy with the larger families.

TURKISH TOWELS AND SPECIFICATIONS. The Bureau of Home Economics has divided cotton turkish towels into five types. Type 1 have a single-ply ground warp with half as many ground as pile ends; a single-ply ground and an equal number of ground and pile yarns are called type 2; type 3 has 2-ply ground warps with half as many ground as pile ends; and in type 4 the ground warps are 2-ply and equal to the pile yarn in number. Type 5 is the ribbed type and no definite specifications are set up.

SERVICE STUDY OF TURKISH TOWELS. Using the four type turkish towel classification, research tests and washing tests were applied to four dozen of each four types. With one exception all were still serviceable after 100 washes; all towels decreased lengthwise, increased in width, and increased in thickness after 20 washes; as service continued, the breaking and bursting strength of all four groups decreased, while the chemical deterioration increased; for each type of towel, the quality which originally showed more chemical deterioration continued to do so throughout service; and the percentage of moisture decreased after 100 periods of laundering, while that of ash increased.

Modern Hospital

Vol. 50, May 1938

*Dietitians in the dark.—p. 42.
*Reducing labor turnover. W. L. Wilson Jr.—p. 60.
*Nourishing food for the help. G. Carden.—p. 94.
Offers field practice course.—p. 96.
*Diet for the tuberculous. D. Barker.—p. 98.

Vol. 50, June 1938

Flowers for the hospital. C. Spry.—p. 90.
*Five year plan that works. M. P. Deal.—p. 94.

FACTUAL DATA NEEDED. What the dietitian has a right to expect from the bookkeeping department.

LABOR TURNOVER. Ways and means of reducing labor turnover and building up a group of loyal and efficient workers are described.

EMPLOYEES' FOOD. Cafeteria equipment, working schedules, prices, and sample menus at Strong Memorial Hospital, Rochester, New York, are given.

DIET FOR THE TUBERCULOUS. Classification of routine diets followed in a tuberculosis sanatorium. Illustrations are confined to the dinner and supper meals of the general diet, based upon three consecutive days' menus.

PROFITABLE REMODELING. A long term remodeling project for modernization of the dietary department by the best use of available floor space and the gradual addition of new equipment.

The Nation's Schools

Vol. 21, May 1938

*Camps of today. H. H. Twining.—p. 36.
Appraising for insurance. H. Garver.—p. 53.
First aid to furniture. E. O. Fox.—p. 60.
Alcoves for eating. D. E. von Sternberg.—p. 66.
*Chefs in the making. J. M. O'Brien.—p. 70.

CHEFS. The boys' chefs club in the Patterson High School, Baltimore, is the most popular extra curricular activity. The program includes the study of foods and cookery, meal planning table service and table and social etiquette.

Personnel Journal

Vol. 17, May 1938

Social work ability. L. F. Carter.—p. 1.
*Life with the boss. R. B. Hersey.—p. 4.
*Rating from photographs. A. W. Kornhauser and R. N. McMurray.—p. 21.

PERSONNEL MANAGEMENT. Illustrations deal with the development of confidence and reveal the problems in employee-owner relationships such as monotony, relaxation, piece work, material shortage, moods, ups and downs, recognition, job status and outside worries.

PHOTOGRAPH RATING. One thousand visitors at the National Business Show were asked to rate ten men on selling ability and intelligence from their photographs. The study apparently provides no justification for assuming that either selling ability or intelligence can be satisfactorily judged from photographs.

Practical Home Economics

Vol. 16, May 1938

From railroad coaches to unit kitchens. G. L. Roskie.—p. 188.
*Serving meals aloft. H. M. Fyler.—p. 195.
*Food service at the University of Cincinnati. R. C. Thomas.—p. 202.
*Better meal planning at lowered cost. R. Preschley.—p. 204.

FOOD SERVICE AND AIRPLANES. The planning of menus and food service for air liners is a new field of service for home economics graduates. The secret of the successful meal aboard an airliner is the careful planning at the food depots and proper equipment on the planes.

UNIVERSITY FOOD SERVICE. More than one-third of the activities of the new Student Union Building at the University of Cincinnati are concerned with the serving of food. Facilities include a hall where 675 students can be seated at one time; eleven private, modern dining rooms; a soda grill; and a colonial dining room for the Faculty Club.

DELICIOUS LOW COST DISHES. New and novel ideas for preparation and ingenious ways of serving turkey, lamb, fish, liver, giblets and pork sausage, to reduce food costs and increase sales appeal while securing a higher quality of finished food product.

Restaurant Management

Vol. 42, May 1938

California gives us good ideas. G. M. Mardikian.—p. 392.
Sixty-five hints for moving and opening a new restaurant. A. Easton.—p. 396.
*Cure kitchen fire hazards. L. F. Maar.—p. 402.
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Catering to 75 % repeat business. E. A. White.—p. 406.
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Store managers report. Editorial.—p. 496.
*Meet Miss Murray. C. Hale.—p. 502.
Twenty specials for summer menus. Editorial.—p. 542.

KITCHEN FIRE HAZARDS. Periodic fire prevention routine recommended in the care of greasy hoods over ranges and vent flues, over-heated ranges, fat used on stoves, inflammable decorations and electric wiring. Fire extinguishers of the vaporizing type at fixed locations and every bus-boy and waiter trained in their use are additional precautions.

MISS MURRAY. An account of practices that developed Murray's Lunch Ltd., from an idea in 1925 into 15 restaurant units in Toronto, Montreal and Sudbury, with a current annual volume of 4,000,000 meals.

School Life

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Radio and screen. G. Studebaker.—p. 288.

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Low cost forums for smaller communities. J. W. Studebaker and C. S. Williams.—p. 308.
Summer radio workshops.—p. 322.
Education for home and family life. Bibliography. H. E. Wheeler and B. I. Coon.—p. 323.

The Science Leaflet

Vol. 11, March 1938

Iron and steel. Editorial.—p. 2.
*Standardization of fruits and vegetables. M. L. Runzo. —p. 31.

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*Broadcast on research and children's diets. Editorial.—p. 1.
Two Hawaiian food industries. D. Seu.—p. 21.

STANDARDIZATION. "Grading consists of separating a product into groups or grades of uniform size, kind, and quality. Standardization . . . establishes the permanency of these grades by defining the nature and character of the commodity." Summarizes the work done in this field to date on fruits and vegetables. Bibliography is included.

NUTRITION BROADCAST. The complete script presented cooperatively by the Student Science Clubs of America and the National Broadcasting Company over WEAF and affiliated stations, is given. The broadcast described the research study carried on by The Pennsylvania State College in collaboration with the Pennsylvania Department of Health to investigate the dietary habits of representative children and to determine the effect of different dietary practices upon the nutritional well-being of the children in question.

NEWS NOTES

American Home Economics Association. According to the release following the association's annual meeting at Pittsburgh June 28–July 1, the next annual meeting will be held in San Antonio, Texas, during the week of June 19, 1939. Dr. Helen Judy Bond, Teachers College, Columbia University, is the incoming president. Over 2000 members attended this 31st annual meeting, discussing topics covering the fields of education, housing, public health, the consumer movement and daily problems of home-making. The importance of the work of the home economist in public health was emphasized along the lines of school health programs, the scientific administration of school lunchroom projects and cooperation with other national organizations.

Dr. H. D. Kruse of the Milbank Memorial Fund stressed the need of education of the nation's home-makers in the importance of good nutrition. The speaker felt that there was an alarming prevalence of the so-called deficiency diseases either in the latent or active stage. Other scientific reports concerned laboratory tests on the vitamin requirements of human beings and new methods for testing quality in meats and vegetables.

Lydia J. Roberts, chairman of the Department of Home Economics, University of Chicago, received the Borden Award for research in nutrition at the Pittsburgh meeting. The award consists of a gold medal and $1000.

The Annual Conference of Food Service Directors to be held in Rochester, New York, November 3–5 is arousing keen interest in the minds of all dietitians. These regional conferences have been most helpful in promoting high standards of food service and provide an excellent opportunity for the discussion of common problems in the round table meetings. While the school lunchroom is given special attention at these programs, the topics have a general appeal in the broad field of food administration. Members of the local, state and national dietetic and home economics associations will welcome the delegates. It is hoped that Lenna F. Cooper, Anna M. Tracy and Mrs. Helen Judy Bond will be among those attending the meeting. The Seneca Hotel is the headquarters for the conference and the Sagamore Hotel, Powers Hotel and Rochester Hotel are nearby. Rochester is easily accessible by motor, airplane, railroad or boat transportation.

Tentative schedules for trips include a stopover at Cornell University, Ithaca, New York, en route, on November 3, when the members of the Institution Department of the College of Home Economics will entertain visitors. Side trips are being planned to Niagara Falls, to Letchworth Park and other delightful spots in the beautiful Finger Lake region. There are also trips of professional interest to the Eastman Kodak Company, the Rochester public school lunchrooms, the Memorial Art Gallery and the University of Rochester, including the Eastman School of Music. Exhibits of supplies and equipment will be a feature.

The program as planned by Laura Comstock follows: On the opening day greetings are to be extended by Lenna F. Cooper, former president, and Anna M. Tracy, president, American Dietetic Association; Helen Judy Bond, president, American Home Economics Association; Etta H. Handy, president, Rochester Dietetic Association; James Spinning, superintendent of schools, Rochester; Manie Lynde, president, Rochester Home Economics; and Harold Akerly, assistant superintendent of schools, Rochester.

The speakers and their subjects are as follows: Clarence B. Kugler, manager of school lunchrooms, Philadelphia, "Fabricated Equipment"; Paul Williams, United States Bureau of Agriculture, "Government Grading of Canned Goods"; Lydia Roberts, University of Chicago, "Nutrition Needs of School Child and the Responsibility of School Lunch for Meeting Them"; Mary McCormick, New York State Department of Education, "Educational Possibilities of the School Lunchroom in Every Type of School"; Estelle Hawley, University of Rochester, "Current Nutritive Standards in Low Cost Lunches"; George H. Chatfield, director, Bureau of Attendance, Board of Education, New York City, "The Effect of Adequate School Lunches Upon the Physical Growth of School Children". Mary de Garmo Bryan will preside at a discussion of "Means of Improving Palatability and Attractiveness of Food", with the following speakers: Dorothy Roberts, Cornell University;

Dorothy Andrews, Rochester Schools; Alice Easton, Sibley, Lindsay & Curr Co. Rochester; Anna Hoke, special lecturer in the School of Hotel Administration, New York City. Others on the program are: W. S. Mueller, Massachusetts State College, Amherst, "Chocolate Milk"; Howard Briggs, formerly vocational director, Cleveland Schools, "Training of Personnel"; and Lorena Richardson, manageress, Restaurant Department, Simpson's Arcadian Court, Toronto, "Experimenting in Food Cost Accounting".

Reports on Food Conference Studies will be given by the following: Mary de Garmo Bryan, "Layouts"; Dorothea Behm, "Finance"; Marian C. Allen, "Dishwashing Compounds and Laws on Dishwashing and Sterilization"; Olive Fay, "Score Card on Sanitation"; Mary Spaulding, "Health Promotion"; Winning Pendergast, "Qualifications of School Lunchroom Managers"; and Edna Gilbert, "Uniforms".

Seventh International Management Congress will be held in Washington, D. C. September 19–23, 1938. The first congress met in Prague in 1924 and the coming meeting, the first to be held in this country, will bring authorities from about forty countries who will participate in discussions on management as applied to industry, commerce, finance, the farm and the home. National associations, including the A. D. A., will participate in the course as sponsoring bodies. The meeting is intended to "dramatize before a world-wide audience the contributions made by management under a system of free enterprise to the rising standards of American people." The more general phases of management—administration, production, distribution, and direction of personnel, as covered in the Congress, should interest dietitians concerned in hospital and other institution work.

Mrs. Marie M. Meloney, editor New York *Herald Tribune* Sunday magazine, *This Week*, is chairman of the section devoted to Management Problems of the Home. Discussions under this section will include city, town, and rural planning, home financing, group and individual housing, power and energy schedule, consumer buying and so on. Among the prominent speakers who will appear are the following: Viscount Leverhulme, president of the International Committee of Scientific Management; Dr. Karl T. Compton, president, Massachusetts Institute of Technology; and the Hon. Daniel Roper, Secretary of Commerce of the United States.

Dietitians on the Radio. The Medical Committee of the New Haven Council of Social Agencies has sponsored a weekly broadcast over Bridgeport Station WICC on Tuesdays at 2 P.M. Two members of the Connecticut Dietetic Association have participated in the program this spring. Mrs. Frances Cowles, nutritionist of the Visiting Nurses Association, spoke in April on "Nutrition in the Home"; and Dorothy Milavetz, chief dietitian, Grace Hospital, New Haven, on Hospital Day, May 12, discussed "Dietetics in the Modern Hospital". Miss Milavetz' address appears under the current comment section of this JOURNAL.

New York Diabetes Association. The association, which has recently been incorporated, announces a renewed campaign to aid the 75,000 diabetics in New York City, of whom 2500 died in 1937. Realizing that a diabetic with proper medical supervision can live out his normal span of life, the association, aided by leading physicians and public health organizations, has undertaken to bring all helpful facilities to the attention of the diabetic. Among the association's activities other than education of the public are: making available to physicians data of approved methods of treatment; cooperating with nursing and social work agencies; conducting research; developing standards for hospital care; and operating summer camps for needy diabetic children.

Recent studies of the association indicate that diabetes is much more prevalent than was heretofore believed, even by the medical profession. It was found that diabetes is twice as prevalent among women as among men and 75 per cent more common among Jews (in New York City) than among non-Jews. The condition is nearly three times as prevalent among single women over forty-five than among those of the same age who are or were married. Thus it appears to be related in some way to the glandular changes associated with child-bearing.

Tables of the Vitamin Content of Human and Animal Foods. *Nutrition Abstracts and Reviews* for April 1938 contains tables of vitamin

content compiled by Margaret A. Fixsen and Margaret H. Roscoe. These tables are available on application to the secretary, Rowett Institute, Aberdeen, Scotland. Price 2s. 6d. each, post-free.

Résumé of Vitamin Developments During the Year 1936–1937. The *Bulletin of Hygiene* for April 1938 contains a résumé on this subject and an extensive list of references compiled by S. J. Cowell.

The Commonhealth of the Massachusetts Department of Public Health, in its first number for the current year, contains articles by Mary Spalding on "Nutritionists Pioneer in County Health Units" and Dorothy Frank on "Massachusetts Advances toward Better School Lunches". This special issue is devoted to new activities of the department. Miss Spalding tells chiefly of the results of her "Well Child Conferences". In addition, she discusses the results of her school lunch surveys and school clinics. Miss Frank writes of her work in promoting better school lunches.

The State College of Washington, Pullman, Washington. Dr. E. Neige Todhunter, associate professor of nutrition, has directed the preparation of a mimeographed circular, an annotated bibliography entitled "Factors Affecting the Nutritive Value of Foods. I. Loss of Minerals in Cooking." Copies of this bibliography may be obtained directly from the College of Home Economics for fifteen cents to cover cost of mailing. Dr. Todhunter states that the bibliography was prepared as a summary of available information on a given subject and to serve as a teaching method, giving the students training in carrying a problem to completion, in preparing a bibliography, using index and reference journals, and abstracting articles.

Maryland Authorizes Standards for Eating Utensil Sanitation. The State Board of Health has adopted regulations for the cleansing, rinsing, disinfecting and storing of food containers. Effective July 15, the board requires the use of single service containers if facilities for the proper cleaning of dishes are not available.

The National Board of Fire Underwriters has recently distributed a bulletin issued by their committee on fire prevention and engineering standards entitled *Fires in Grease Ducts in Kitchens*. The bulletin is being distributed from the board's headquarters at 85 John Street, New York City.

Golden Gate International Exposition. At the meeting of the American Medical Association at San Francisco in June, leading members of the association dedicated an exhibit sponsored by the A. M. A. The exhibit will be planned to educate the public concerning medical quackery, frauds, superstition, malpractice and medical ignorance.

National Executive Housekeepers Association. The fifth annual congress was held at the Hotel Raleigh, Washington, D. C. June 2–5. Among the several speakers was Dr. Mary de Garmo Bryan, professor of Institution Management, Teachers College. Dr. Bryan led the discussion concerning questions previously sent in by members concerning problems of large scale housekeeping. Other speakers included Mrs. Nesbitt, housekeeper at the White House, Lucius M. Boomer, president of the Waldorf-Astoria, and Helen Zagat. The addresses of Mr. Boomer and Miss Zagat appear in the *Hotel Monthly* for July, 1938.

Popular Publication on Nutrition. The new monthly magazine, *Hamazon*, edited by the Nutrition Committee of the Economic Research Committee of the Jewish Agency for Palestine, is the first and only monthly magazine in Palestine and the entire Near East which deals with problems of nutrition and home economics. The magazine will explain the correct usage of foodstuffs from the standpoint of health and economy both for the individual and the public in keeping with local climatic conditions. The publication is printed in English, Hebrew and German and the May 1938 issue contains an article on the child's diet and several recipes by Sarah Bromberg, head of the Hadassah Nutrition Department.

Food Industries for July 1938, under its editorial section, paints a dark picture of the prospects in industry for hopeful young home economists. The writer doubts if as much as one per cent of all home economics graduates can find industrial employment. "The needed

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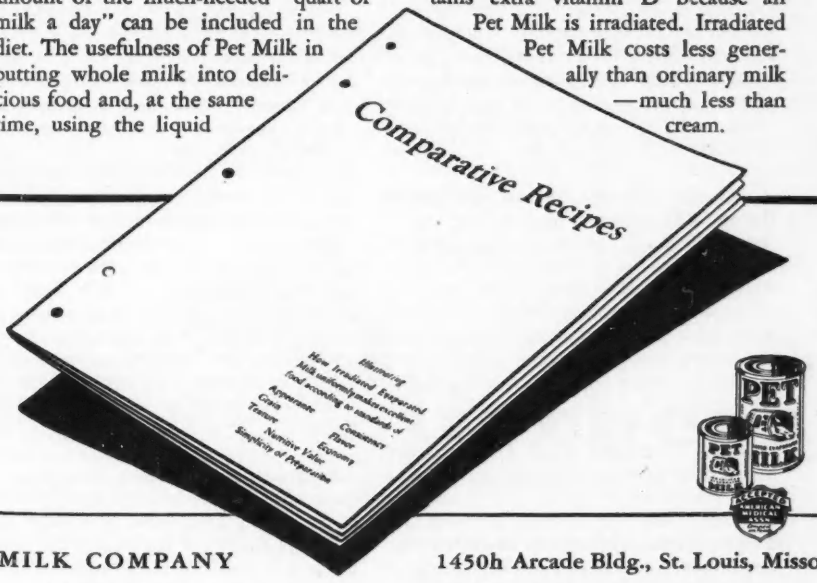

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qualifications for a good job involve a whole lot more than mere ability to whack up a good meal." A considerable knowledge of sales promotion, advertising, public speaking and public relations is also indispensable. Aside from this, the writer doubts whether many food manufacturers would know how to make effective use of a home economist any more than they know what to do with a research or control chemist in order to make money from his services.

Students' Health Service, University of Minnesota. Gertrude I. Thomas, director of nutrition in the University Hospitals, reports that during the past winter there was a demand for a "diet table" in connection with the university's health service. Therefore this was made available to any students who required a special dietary routine extending over an appreciable period of time. This service was opened January 5 and the number availing themselves of the facilities gradually increased until at the end of May, 726 special meals had been dispensed during a month. The improvised kitchen for this service has now been permanently equipped with a staff consisting of one dietitian and a trained attendant and one nutrition student. The patients, who were referred by the health service physicians, consisted of seven diabetics, eleven gastric ulcer cases, two nephritics and one ulcerative colitis. Miss Thomas writes that the work will be continued in the fall quarter.

A Course in Diabetic Diets for Special Duty Nurses. Mary Edna Golder, dietitian at St. Anne's Hospital, Chicago, reports that 50 nurses enrolled for a course of instruction in diabetic diets. Miss Golder plans to give a course of 15 lectures at the Chicago Foundlings' Home this fall, designed to train young women for nursery maid work. The course is patterned after that given at Michael Reese Hospital.

Use of Evaporated Milk. In the United States alone, per capita consumption of evaporated milk increased 31 per cent during the depression years 1929 to 1935, according to a survey completed by the Evaporated Milk Association and announced at their May meeting at French Lick, Indiana. Dr. Frank Rice, secretary of the association, stated that welfare agencies had found evaporated milk the solution to their problem of supplying the essential food values of milk to the needy, quickly and in large quantities. American dairy farmers were paid close to $60,000,000 for the 4,137,500,000 pounds of raw milk which were transformed into evaporated milk in one year, 1935, the survey shows, and of all canned goods consumed in the nation, 25 per cent is evaporated milk.

Providence Y. W. C. A. School of Homemaking. According to the report of the director, Eleanor H. Wells, the school has closed its eighth year with a total enrollment of 538 students. Under the general classification of sewing and dressmaking, foods and home, and cultural subjects, 50 different groups have totalled 532 meetings with an aggregate attendance of 4520. The average enrollment has been 10, with an average attendance of 9, indicating a low figure for absence. Over 200 students enrolled in courses of food preparation. Three groups of working girls have met for supper classes. An afternoon tea project carried on with high school girls, lent social aspects to their training.

A free class of undernourished younger children, in one of the branch groups, was formed not on the basis of skills, but rather on that of right food habits. In homes where black coffee and butterless bread are sample breakfasts, cereals, stewed fruit and cocoa in class proved decidedly popular, and oatmeal was well tucked in. Classes in nationality women have always proved very popular and meetings with the parents of these children proved an inspiration to the former. Talks on marketing and food values have helped the home meal planning.

The Home Nursing and Family Health class proved helpful. Diet talks, marketing and meal planning, together with aspects of consumer interest have been discussed under the title of "Eat and Keep Fit." Pamphlets on diet have been drawn up and distributed with gratifying results.

Katherine Mitchell, past president of the American Dietetic Association, formerly director of the Dietary Department of Michael Reese, and more recently of the Dietary Department of the Los Angeles County General Hospital, sailed on the *Queen Mary* June 22 on the first lap of her journey to Bombay, India, where she will be a member of the staff of a new cancer

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"Many authorities believe that a supply of vitamin B_1, additional to the amount present in milk should be provided for the normal infant. Increased intakes, beyond the amounts present in good average diets, have seemed to aid in promoting more stabilized growth and greater nutritional stability." (1) Vitamin B_1, the anti-neuritic vitamin, since the work of Daniels et al in 1920, has repeatedly been shown to be of advantage in feeding of infants, (2), and "of value in securing optimal growth of infants and children." (3)

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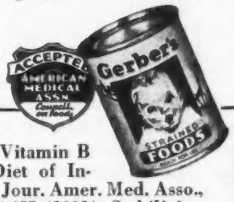

1. Symptomatology of Vitamin B Deficiency in the Diet of Infants, R. B. Hoobler. Jour. Amer. Med. Asso., 91,307 (1928) ibid 96,675 (1931). Stabilizing Effect of Increased Vitamin B_1 intake on Growth and Nutrition of Infants: Basic Study, Poole, Hamil, Cooley & Macy. Amer. Jour. Dis. Child. 54,726 (1937)
2. Sub-clinical Forms of Vitamin B Deficiency, Chap. XL, in The Avitaminoses, Eddy & Dalldorf. (1937)
3. Council on Pharmacy and Chemistry, Jour. Amer. Med. Asso., 106, 1732 (1936)
4. Further Studies of the Content of Vitamin A and B in Canned Strained Vegetables, F. Hanning, Jour. Amer. Diet. Asso., 12,231 (1936)

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research hospital, the Tata Memorial. Miss Mitchell expects to be away two years. She has had other hospital experience in foreign lands through making a survey of the Department of Dietetics at the Peiping Medical College for the Rockefeller Foundation. She is also the author of a leading text book for nurses, *Food in Health and Disease.*

Frances Stern, director of the Food Clinic at the Boston Dispensary and noted as a pioneer in this field, as well as the author of several books including her more recent *Applied Dietetics*, was granted the honorary M.A. degree by Tufts College, Massachusetts, on June 13. For several years Miss Stern has taught the medical students of Tufts College at the Food Clinic of the Boston Dispensary.

Dr. Martha Koehne, nutritionist for the Department of Health of the State of Ohio, will give a paper on diet and dental health at the annual meeting of the Greater New York Dental Association in December.

California Dietetic Association. At the request of the American Psychiatric Association, Jane Sedgwick, food administrator in the Department of Institutions for the State of California, and Lavern Owens of the Franklin Hospital, assisted by Marguerite Richards, president of the state association, arranged an exhibit comprising a display of the nutrition work done at the University of California; diet in insulin shock therapy; nutritional needs of the normal adult; the state association's compilation of diets; and mimeographed material illustrating the system of food control in California's institutions.

A member of the California Dietetic Association was present in the booth at all times. Dr. Nina Simmonds, lecturer in nutrition at the University of California College of Dentistry, was present at the booth one afternoon when members of the American Psychiatric Association were invited to meet her.

Alma Bering of the Sheppard and Enoch Pratt Hospital, Maryland, sent three posters of her work on feeding mental patients. Her menus and special meals for holiday occasions proved very interesting to visiting superintendents.

Another interesting display was a photostatic copy of the index numbers of food prices for California institutions and a comparison of costs of meals. Reprints of the article on diet in insulin shock therapy appearing in this JOURNAL for April were available for distribution.

The *Bulletin* of the state association for June 1938 carried a tentative program for the 14th annual meeting August 26–27 at the Palace Hotel, San Francisco.

At the opening session with Gwen Wedlake presiding, greetings were to be extended by Marguerite Richards, state president, and Mr. Archibald Price of the Palace Hotel. The following papers were scheduled: "Food Control Cost" Mr. Henry T. Maschal, C.P.A., resident manager of Harris, Kerr, Foster and Company; and "The Dietitian and the Hospital Research Program" by Agnes Fay Morgan, Ph.D., head of the Division of Home Economics, University of California.

In the afternoon discussion groups were planned under the direction of Helen L. Gillum, followed by a business session and informal dinner meeting.

At the general session on August 27, with Pauline Hoyt presiding, the following program was arranged: "Nutritional Problems Among Migratory Workers in California", Ellen S. Stadmuller, M.D., chief of the Bureau of Child Hygiene, California Department of Public Health; and a symposium, "The Hospital Coffee Shop and its Problems".

An exhibitors' luncheon at noon and a general session following, with Lucile Hall presiding, completed the afternoon program. Papers scheduled were: "The Adaptation of the Newer Knowledge of Nutrition to the Feeding of Patients on Restricted Diets", Dwight L. Wilbur, M.D., Stanford University Medical School; "The Dietitian's Contribution to Nursing", Carrie E. Ferguson, instructor of nurses, Alameda County Hospital, Oakland; and "Posture and Nutrition", Ruth Anst, B.S., physiotherapist, The Children's Hospital, San Francisco. The program closed with a formal banquet.

Canadian Dietetic Association. No. 1, Vol. 1, of the *C. D. A. News*, the pre-convention number, included an attractive cover carrying a photographic reproduction of the Peace Tower at Ottawa. The contents comprised convention plans and messages from the Association's

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Colorado Dietetic Association. The annual meeting was held on May 15 at the Blue Parrott Inn, Denver. The following officers were elected: president, Doris T. Odle, Presbyterian Hospital, Denver; vice-president, Evaline McNary, Bemis Hall, Colorado College, Colorado Springs; treasurer, Pauline Dill, Colorado General Hospital, Denver; secretary, Mary Reutz, Children's Hospital, Denver.

The following section and committee chairmen were appointed: Administration, Ruby Kysar, St. Luke's Hospital, Denver; Diet Therapy, Emma Hallett, Children's Hospital; Professional Education, Anna Williams, University of Colorado, Boulder; Community Education, Ada Beth Poor, State Hospital, Pueblo; publicity chairman, Evaline McNary; program chairman, Rosella Hanfeld, Mercy Hospital, Denver. Doris T. Odle, president, was elected state representative to the House of Delegates of the A. D. A.

The general meeting included the following program: "The Infant's Dietary", Dr. Wilford Barber; "The Diet in Pre-operative and Post-operative Thyroid Cases", Dr. Kenneth Sawyer; "Modern Equipment for Better Food Service", Mr. M. W. Bailey, Public Service Company of Colorado, Denver; and "Nutrition and Its Relation to Health", Mrs. Nevan Kilpatrick, director of health education for the Denver Dairy Council.

Hannah Hotvedt of Corwin Hospital, Pueblo, has accepted a position in Hawaii.

Margaret Deardorff, formerly a student dietitian at Colorado General Hospital, is now dietitian at the Modern Woodmen Sanitarium.

Mary Elizabeth Prather, formerly chief dietitian at Colorado General Hospital, was married to Harold Henson of Boulder. Pauline Dill has accepted the position vacated by Mrs. Henson. Maybelle Williams, former student at Colorado General, is the new assistant.

Clara Bess Garrison is now with the Junior League Shop in Denver.

Helen Noyes, formerly dietitian at Fitzsimmons Hospital, was married to Ross Thomason of Omaha. Donna Sue Lowe has accepted the position at Fitzsimmons vacated by Mrs. Thomason.

District of Columbia Dietetic Association. The May round table meeting was held at the Episcopal Eye, Ear, Nose and Throat Hospital, with Miss George, dietitian, as hostess. Mary Mason of the National Broadcasting Company told of the problems of the dietitian whose work lies in the field of radio.

Ann Sullivan Hagen, dietitian, Chestnut Dairy Farms, discussed the problems that confront the dietitian who has to sell her products to all classes of people, and meet strong competition.

Dorothy Adams, dietitian for "Hot Shops" in Washington, gave a practical discussion of this field of work, new to Washington dietitians, in which dietitians must prove their usefulness in the commercial field.

Jean Green, food editor for the Washington *Post*, told of the dietitian's varied work on a newspaper and the questions housewives ask. She emphasized the need for the dietitian in newspaper work to keep in close touch with the woman in the home in order to give the public what it wants when it is most timely.

Detroit Dietetic Association held a joint dinner meeting with the Detroit Home Economics Association in April at the Woman's Exchange. Dr. Lydia J. Roberts of the University of Chicago spoke on "Some Recent Developments in the Methods of Judging Nutritional Status and Requirements".

The May meeting was held at the Alger Center. Dr. Samuel Altshuler of Harper Hospital, president of the Detroit Diabetic Association, told about the purpose of the association and the progress it had been making. Mary Harrington of Harper Hospital, who is the dietetic representative of the Detroit Diabetic Association, discussed the work of her group.

In June, a picnic was held at Plymouth Park.

Florida Dietetic Association held the fourth annual meeting at the McAllister Hotel, Miami, May 9. Jennie Tilt, Florida State College, president, presided at the business meeting. Anna M. Tracy gave an interesting report on professional education. Helen Davis reported on the Richmond meeting. At the close of the business meeting the following officers were elected: president, Pearl Laffitte, home demonstration agent, Jacksonville; vice-president, Helen Davis, State Tuberculosis Sanatorium,

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Orlando; secretary-treasurer, Agnes Sawby, Flagler Hospital, St. Augustine.

At the luncheon meeting, Dr. John C. Gifford, Miami University, was the principal speaker, discussing "Tropical Fruits". The afternoon speakers included: Dr. M. F. J. Weilage, "Nutritional Factors in Dental Caries"; Dr. D. Thompson, Orlando, "Diet in Tuberculosis"; and Dr. J. L. Anderson, Miami, "Clinical Manifestations of Low Blood Sugar Levels".

A dinner followed at the Miami Battle Creek Sanatorium, with Dr. John Harvey Kellogg as speaker.

At the request of the Florida Medical Association a joint program was arranged by the Florida Dietetic Association, under the direction of Dr. Jennie Tilt, and presented on June 28 at the sixth annual Graduate Short Course, Daytona Beach, in cooperation with the Florida State Board of Health. The program consisted of a symposium on the vitamins as follows: "The Physiology of the Vitamins", Harry Day, M.D., Department of Biochemistry, School of Hygiene and Public Health, Johns Hopkins University; "The Chemistry of the Vitamins", Jennie Tilt, Ph.D., professor of physiological chemistry, Florida State College for Women; "The Clinical Significance of the Vitamins", James S. McLester, M.D., past president, American Medical Association, and honorary member, American Dietetic Association.

The Florida Dietetic Association has been asked to prepare a program for the Southeastern Hospital Association meeting to be held in Jacksonville, April 1939.

Maryland Dietetic Association held the last meeting of the year on May 16 at the Union Memorial Hospital with E. M. Geraghty, chief dietitian, acting as hostess. In the absence of the president, Helen Schmit, vice-president, presided. The program consisted of the annual reports of the officers and committee chairmen. Following this, election of officers for 1939 was held with the following results: president, Alma Bering, chief dietitian, Sheppard and Enoch Pratt Hospital; vice-president, Helen Schmit, chief dietitian, City Hospitals; secretary, Helen Baughman, dietitian, Johns Hopkins Hospital; treasurer, Alice Jané, chief dietitian, Spring Grove State Hospital.

The Diet Therapy Section arranged, as their last meeting of the year on May 19, a lecture by Dr. James Bordley of the Johns Hopkins Hospital on "Nephritis and Hypertension."

News notes covering the activities of the Maryland Dietetic Association for the past year have been sent to Edith M. Barber, national publicity chairman, to be published in the Sunday newspaper at the national convention in Milwaukee in October.

Mrs. Elsie Wasson has accepted the position of assistant dietitian and instructor of nutrition at the Union Memorial Hospital. She has been a graduate student at the University of Chicago and was employed at the Frostburg Normal School, Maryland.

Mrs. Robert Reiter, the former Pauline LeClaire, has resigned her position at the Baltimore City Hospitals. She has been replaced by Ruth Aldrich, a graduate of the Johns Hopkins.

Mrs. R. W. Hambleton, the former Colleen Cox, is now a member of the staff at Johns Hopkins Hospital.

Aurora Sutsianu of Roumania recently spent a month observing in the Johns Hopkins Dietary Department.

Dr. and Mrs. Larry Kolb (Madeleine Curry) sailed for England on the *Duchess of Atholl* on August 19.

Kathleen Moore, formerly on the staff at the Johns Hopkins Hospital, and now in charge of the Dietary Department at the Western Maryland College, and Mr. Milson Raver, who is a member of the faculty at the college, were married on June 18 at Miss Moore's home in Denton, Maryland. They are living in Westminster.

Sarah Tweed, who completed the postgraduate course at Johns Hopkins in July 1938, in substituting on the staff during the summer.

The following students are volunteering in the department at Johns Hopkins during the summer months: Mildred Hearn, University of Maryland, Doris Rice, Drexel Institute, Anne Lyddane, Drexel Institute, Betty Swisher, Hood College and Woot Tsuen Wu, Pennsylvania State College.

Those beginning their postgraduate course in July at Johns Hopkins Hospital included the following: Floreine Dietrich, University of Oklahoma, Mildred Braeunig, Drexel Institute, Eleanor Wilkinson, Kansas State College, Gertrude Bramley, Cornell University, Clare Pell,

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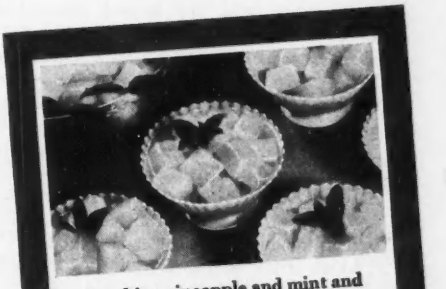

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Iowa State College, and Helen Moxley, Battle Creek College.

Rose Porter, formerly dietitian at the Catawba Sanitarium, Virginia, is now on the staff at the Sheppard and Enoch Pratt Hospital, Towson, Md.

Minnesota Dietetic Association met jointly with the Minnesota Hospital Association on May 20 at the Nicollet Hotel, Minneapolis. The meetings were conducted by the Diet Therapy Section with Dr. Hope Hunt of the University of Minnesota as chairman. At the joint session with the hospital association, Lucile R. Townsend, president, represented the dietetic association on the program, speaking on "Why a Dietitian". After the session, the dietitians met for luncheon with Mr. John Blair of the Eli Lilly Company as guest speaker. Mr. Blair spoke on "Some Recent Therapeutic Developments", discussing chiefly the development of insulin therapy in diabetes; diet, iron and liver therapy in the anemias; and new vitamin products supplementary to foods.

At the afternoon session, Dr. M. G. Visscher, head of the Physiology Department of the University of Minnesota, talked on "Research and the Dietitian". His talk was illustrated with slides. The film, "Grass", followed Dr. Visscher's talk.

Previous to the meeting, invitations were sent to the various colleges throughout the state, inviting the senior students in home economics to attend the meetings and particularly a tea given for them by the Minnesota Dietetic Association at Asbury Hospital, Minneapolis. Many members attended the banquet given by the hospital association in the evening, at which Lucile Townsend was a guest at the speakers' table.

There have been twenty-six new members added to the state association during the 1937–1938 year.

Florence Wasson, formerly of St. Andrew's Hospital, Minneapolis, has been succeeded by Martha L. Otto of the University Hospital. Angeline D. Mannick succeeds Miss Otto at University Hospital.

At the request of Dr. Merkert of the Hennepin County Medical Society (Minnesota), a committee has been working to develop a consultant dietitian service to assist physicians. The committee consists of Gertrude I. Thomas, chairman, Grace Moreland, Theon Halverson Connors, Harriet Warmington and Lucile R. Townsend. It is hoped to establish a central office for the dietitian consultants. This is a decidedly new development in the field of activities for the dietitian and because of its importance it deserves every encouragement.

Missouri Dietetic Association. The annual meeting was held at the Statler Hotel, May 12–13, 1938. The following officers were elected: president, Ruth Kahn, Washington University Food Clinics, St. Louis; vice-president, Theresa Crispin, Farmington State Hospital, Farmington; treasurer, Grace Zerbolio, Barnes Hospital, St. Louis.

Section chairmen were appointed as follows: Diet Therapy, Mrs. Vera Davis, Kansas City; Administration, Mrs. Gladys Hall Silkey, St. Louis; Professional Education, Louise Wilkonson, St. Louis; Community Education, Ethel Ollis, Kansas City; and Historian, Marion Keller, Mount Vernon.

Approximately 125 were registered. Theodora Stebbins presided at the morning session May 12 with the following program: "Teaching Dietetics to Student Nurses", Dr. Kate Daum, director of nutrition, University of Iowa Hospitals; "Equipping Student Nurses for the Community Health Program", Emilie Robson, R. N., director of Visiting Nurses' Association, St. Louis. At the luncheon meeting with Mrs. Silkey, president, St. Louis Dietetic Association, presiding, Muriel Abscombe, administrator, Jewish Hospital, St. Louis, gave the address of welcome.

Ethel Ollis presided at the afternoon session with the following program: "Budgeting in the Light of Present Day Problems", Ray M. Kniefl, executive secretary, Catholic Hospital Association; "Preparation of Meats", Inez Willson, director, Department of Home Economics, National Live Stock and Meat Board, Chicago. At the buffet supper held in the evening, Ruth M. Kahn, secretary, American Dietetic Association, was the speaker.

Regina Gottlieb presided at the morning session on May 13 with the following program: "Possibilities in School Cafeterias", Wilma Mittelberg, director of cafeterias, University City Schools; "Present Day Viewpoints in Nutrition," Dr. Wendell Griffith, assistant professor of biochemistry, St. Louis University School of

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Medicine. At the afternoon session Frances Ware presided with the following program: "Allergy in Childhood", Dr. Katherine Bain, instructor in pediatrics, Washington University School of Medicine; "Diabetic Diets, New and Old", Dr. Michael Somogyi, director of laboratories and research, Jewish Hospital, St. Louis; "Diet in Pregnancy", Dr. Helman C. Wassermann, assistant in clinical obstetrics and gynecology, Washington University School of Medicine. Dr. Bertha Bisbey, president of the state association, presided at the annual banquet at which Emma Perham Proetz, executive vice-president, Gardner Advertising Agency, St. Louis, spoke on "Opportunities in Business for Home Economics Trained Women".

Oklahoma Dietetic Association. Ann Hains of St. Anthony's Hospital, Oklahoma City, president, reports a most successful first annual meeting of the state association on April 29–30. Papers presented before this meeting were summarized in the last issue of this association's *Bulletin*. Judged by the extensive comments that appeared in the Oklahoma press, much interest was shown in this meeting. In fact, a popular columnist in one of the local papers commented thus: "Oh, to have a publicity director like the Oklahoma State Dietetic Association had for its past convention."

Philadelphia Dietetic Association. At the February 8 meeting, Walter G. Karr, M.D., assistant in medicine at the University of Pennsylvania, discussed "Recent Advances in Nutrition in Health and Disease" at the Philadelphia General Hospital. Dinner at Chez Michaud preceded the meeting.

On February 23 Mary de Garmo Bryan discussed "The School Lunch" at Drexel Auditorium. Invited guests included home economics students and the city home economics association. A dinner at the English Pheasant Inn preceded the meeting.

On March 8, Dr. Joseph T. Beardwood, Jr., Presbyterian Hospital, gave a paper on "Insulin Therapy".

During the year a question box has been a feature of each meeting. Inquiries thus collected were answered and presented to members at a special meeting at the Lankenau School for Girls.

The annual dinner was held on April 12 at the Warwick Hotel. Dr. Mary Swartz Rose, the speaker of the evening, discussed "World Movements in Nutrition".

May K. Fay, chairman of publicity for Philadelphia, is a member of the Food Service Directors' Conference which meets in November, 1938, at Rochester, New York.

Elda Robb taught nutrition at Teachers College, New York, during the summer session.

The following officers for 1938–1939 have been elected: president, Henriette Pribnow, Hahnemann Hospital; vice-president, Elda Robb, Temple University; secretary, Lila G. Hainer, Drexel Institute of Technology; treasurer, Miriam E. Gaige, Philadelphia General Hospital; Executive Committee members, Marjorie Bacheller, Beaver College and Evelyn Carpenter, Philadelphia Hospital for Contagious Diseases; Historian, Katherine Louser, State Hospital, Norristown; Program Chairman, Anna DePlanter Bowes, Philadelphia Child Health Society; Special Diet Chairman, Frances L. Swenson, Mount Sinai Hospital; Hospitality Chairman, Dorothy Mittelstadt, Presbyterian Hospital; Membership Chairman, Margaret Crozier, Philadelphia Public Schools; and Publicity, Lucille M. Refshauge, Mount Sinai Hospital.

Rhode Island Dietetic Association. The association held eight scheduled meetings during the past year. In April, Dr. Samuel Clark of Butler Hospital addressed the association at a meeting held at Butler Hospital, on "Neurotic Factors in Relation to Foods". In May the association met at the Assembly Hall of the Narragansett Electric Company. Mrs. Florence Case, president of the association, discussed "Rhode Island Foods", giving many recipes for dishes whose origin dated back to the time of the Puritans.

In June members and guests met at the Rhode Island Hospital for the annual business meeting and picnic. The following officers were nominated for the coming year: president, Mrs. Florence Case; vice-president, Eleanor Johnson; secretary, Ruth Fitch; treasurer, Susanne Elwell.

Following the business meeting it was voted to donate the sums of $15, $15, and $5, respectively, to the Red Cross, Community Fund, and Infantile Paralysis Fund.

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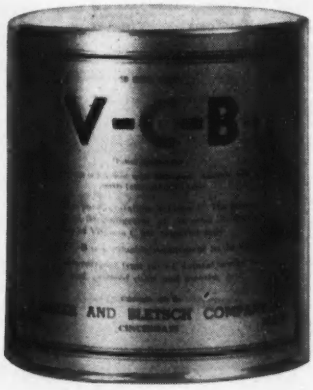

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* These are reports of separate problems which have never appeared in the JOURNAL but have been printed for distribution.

Puerto Rico Dietetic Association. The following were elected at the annual meeting, April 30, 1938: president, Mrs. Rita R. Lang, chief, Nutrition Unit Service, Puerto Rico Reconstruction Administration, San Juan; vice-president, Margarita Pons, chief dietitian, Insular Sanatorium, Rio Piedras; secretary and treasurer, Delia Soegaard, assistant dietitian, Nutrition Unit Service, San Juan.

Luz Iraida Franco Rivera has been appointed dietitian at the Army Hospital, San Juan.

"Nutritional Studies in the Rural Region of Puerto Rico", by Mrs. Rita R. Lang and staff of the Dietetic Unit, with the cooperation of Dr. Pablo Morales Otero of the Health Division, Puerto Rico Reconstruction Administration, is to be published. Reprints of this work can be obtained by dietitians and others interested on application to Mrs. Lang.

Virginia Dietetic Association. The first executive board meeting for the year 1938–1939 was held at the John Marshall Hotel, Richmond, April 30. The meeting was especially called at this time so that members of the board might attend the McGuire Lectures of the Richmond Academy of Medicine.

The following state appointments were made, effective September 1: chairman, Administration Section, Clara G. Turner, dietitian, Madison College, reappointed for two years; Diet Therapy Section, Kathryn Heitschu, Medical College of Virginia, reappointed for two years; Professional Education, Aileen Brown, director of dietetics, Medical College of Virginia, reappointed for two years; Community Education, Mrs. Sally Linkous Kurka, nutritionist, Red Cross, Roanoke.

Evelyn Neale has resigned her position at the Retreat Hospital, Richmond, and will take graduate work at the Virginia Polytechnical Institute, Blacksburg.

Margaret Fitzhugh, Stuart Circle Hospital, has accepted the position of director of the Richmond school lunchrooms.

The state dietetic association will hold the 1939 annual meeting in April at Old Point Comfort, Virginia.

News from Advertisers and Exhibitors. Mary Mason, director of the Home Economics Department of *Chr. Hansen's Laboratory, The 'Junket' Folks*, has prepared a new handbook entitled "Dietary Uses of Rennet-Custards and Other Milk Foods" giving information on the chemistry of the rennet enzyme, the use of rennet-custards in the diet, analysis of rennet-custards made with "Junket" Rennet Powder and "Junket" Rennet Tablets, etc. She includes several diet lists and typical diets such as 1500 calorie, high calcium and low residue diets. Miss Mason's latest recipe book "How to Make Delicious Rennet-Custards and Smooth Ice Cream" has just been completed.

National Canners Association, Washington, D. C. The Home Economics Division under the direction of Ruth Atwater announces the opening of a new service kitchen located in the association's headquarters in Washington. It is planned to offer a recipe service to the canning industry that has not heretofore been possible. The work of the kitchen will be under the supervision of Marjorie Black with the assistance of Katherine Smith, a recent graduate of the Home Economics in Business Department of the University of Minnesota. The Home Economics Division has recently distributed a circular covering information for the canned foods shopper. This tells something of what goes into the can, the various types of cans, labeling, buying, a list of canned foods now available and how to store canned foods.

Hilker and Bletsch Company have recently received the acceptance of the Council on Foods of the American Medical Association on their V-C-B, Vitamin C Beverage Base. This new product has certain definite advantages other than economy. Mixtures of V-C-B and fresh orange juice when kept in a refrigerator for 24 hours retain the fresh fruit flavor while only five per cent of the total vitamin content is lost. Its use is recommended as a refreshing beverage in liquid diets, restricted diets, high carbohydrate diets, forcing fluids, to meet the daily requirements of vitamin C, and to supplement the vitamin C in fruit juices.

John Sexton & Co., Chicago and Brooklyn, have introduced an economical No. 5 tin of strained foods under their Edelweiss label, each tin holding 54 ounces. Edelweiss Strained Foods are prepared from the finest vegetables grown by a special process which retains the valuable vitamins and natural salts in a high degree and also preserves the natural color and flavor. The texture is just right for infants, convalescents and special diets. These foods

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Hawaiian Pineapple Company, Ltd. Patricia Collier, Dole home economist, continued to send out her helpful recipes and culinary suggestions during the summer. An attractive little folder entitled "Kitchen Thrills" gave interesting methods for using Pineapple "Gems", particularly suited to the summer season.

Nutrition, the first issue of a news sheet published by the *Quaker Oats Company* under the direction of Frank L. Gunderson and Eleanor Howe, home economist consultant, appeared in July. It carries current nutrition information and culinary suggestions.

Irradiated Evaporated Milk Institute, Chicago, is distributing reprints from *The Journal of Pediatrics*, showing the results of a comprehensive study of irradiated evaporated milk in infant feeding. The report is of practical significance since the babies were studied under ordinary home conditions, comparable to those encountered in everyday practice. The authors conclude that irradiated evaporated milk "is an effective prophylactic antirachitic agent under the ordinary conditions of out-patient practice". Numerous other publications of practical help are available from the Institute.

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RECENT ADVANCES IN THE SCIENCE OF NUTRITION

I. THE ROLE OF RIBOFLAVIN IN HUMAN NUTRITION

● In 1933, a series of articles on the vitamins was published, each article written by an authority in the field of nutrition. These papers served to summarize existing knowledge concerning these essential factors. During 1938 a similar series of articles has been issued. Comparison of related papers in these two series will indicate the most important advances in the science of nutrition which have been made in the course of the past five or six years.

In the first series of articles mentioned above, only two of the better known members of the old vitamin B complex received extended discussion (1). The more recent series, however, is characterized by the inclusion of a number of papers on riboflavin, which since 1932 has assumed a new significance in human nutrition (2). Authoritative opinion concerning riboflavin has been succinctly expressed as follows:

> "The fact that we do not know any specific human disease due to shortage of riboflavin is entirely compatible with the view that this substance is important in human nutrition. A detailed discussion of reasons for believing that riboflavin plays a role in the life process of the human as of other species would probably seem superfluous to a majority of readers at this date, and to a still larger majority in the future. Suffice it to point out that our species has evolved in the direction not of shortening the list of things it needs but of lengthening the list of things it can use to advantage." (2c)

Chemically, riboflavin is described as 6, 7 dimethyl-9 (d-l' ribityl) iso-alloxazine; a yellow-green, heat-stable pigment enjoying wide distribution in the plant and animal kingdoms. Many foods, therefore, of both plant and animal origin supply valuable amounts of this essential factor, specifically, fruits, vegetables, particularly the leafy pigmented types, and animal products such as milk and dairy products, meats, liver, and fish. It may, perhaps, be too early to estimate the daily human requirement for riboflavin. However, one rather liberal recommendation lists 600 units* as required daily by older children and adults; the estimated riboflavin requirement for younger children is somewhat less (2c).

In view of the above facts, attainment of an adequate intake of riboflavin would appear to be best insured by a varied dietary regime which includes the so-called "protective" foods. The older "vitamin G" assays—which are now known to measure principally the riboflavin contents of foods—indicate that modern canning procedures are without significant effect upon riboflavin. In addition, many foods valued for their contribution of this factor are canned commercially and hence are conveniently available at all seasons on practically every American market. Therefore, commercially canned foods may be freely used in arranging such protective diets and they should materially assist in providing an adequate supply of this newly recognized dietary essential, riboflavin.

AMERICAN CAN COMPANY

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1. 1932 J. Amer. Med. Assn. 98, 2201 and 2283.
1932. Ibid. 99, 26 and 121.
2a. 1938. J. Amer. Med. Assn. 110, 1105.
b. 1938. Ibid. 110, 1188.
c. 1938. Ibid. 110, 1278.

This is the fortieth in a series of monthly articles, which summarize, for your convenience, the conclusions about canned foods reached by authorities in nutritional research. We want to make this series valuable to you, so we ask your help. Will you tell us on a post card addressed to the American Can Company, New York, N. Y., what phases of canned foods knowledge are of greatest interest to you? Your suggestions will determine the subject matter of future articles.

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The Seal of Acceptance denotes that the statements in this advertisement are acceptable to the Council on Foods of the American Medical Association.

WHO'S WHO IN THIS ISSUE

Estelle E. Hawley, B.S. Simmons College, M.S. and Ph.D. University of Rochester, is a fellow in pediatrics and lecturer in nutrition in the Department of Vital Economics, University of Rochester Medical School. She was formerly an assistant in physiology, University of Rochester, and later an instructor in nutrition in the Medical School. Just previous to her present appointments she was on leave from the university as nutrition counselor for the Department of Public Welfare of the City of Rochester.

Henderika J. Rynbergen, B.S. Simmons College, M.S. Cornell University Medical College, has been an instructor in nutrition in the School of Nursing, New York Hospital, since 1934, and was also appointed instructor in chemistry and physiology in 1938. Miss Rynbergen was formerly a nutrition worker in the Neighborhood Kitchen, Boston; food clinic dietitian, Washington University Dispensary, Barnes and Allied Hospitals, St. Louis; head dietitian, Sea View Hospital, New York; ward dietitian, Presbyterian Hospital, New York; and food clinic dietitian at the Vanderbilt Clinic, New York. From 1929–1934 she served as dietitian at the American University Hospital, Beirut, Syria.

Mabel W. Perry is dietitian-in-charge of the Nutrition Clinic of the New York Hospital, New York City. Miss Perry holds the B.S. degree from Battle Creek College and is a graduate of the student dietitian training course at Montefiore Hospital, New York City. Following her student training she took further training in the Food Clinic at the Boston Dispensary and served as associate dietitian at the Beth Israel Hospital Food Clinic, Boston, where she reorganized this unit. Later she served as research dietitian at the Boston Dispensary and did nutrition education work at the Burrough's Newsboy's Foundation, Boston.

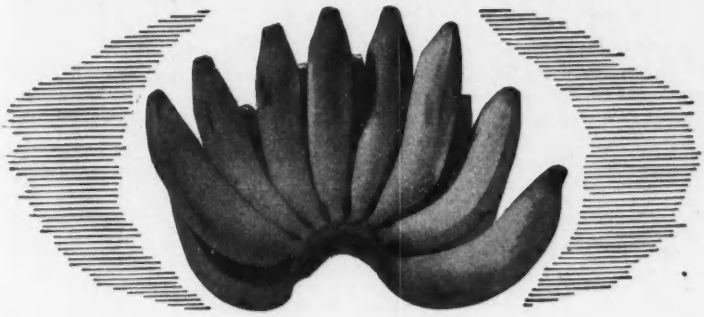
Ruth L. White, B.S., chief, Nutrition Department, Forsyth Dental Infirmary for Children, Boston, also teaches a course at Simmons College in applied nutrition, which includes field training in several Boston agencies. She has served on the executive boards of the Massachusetts Dietetic Association and the New England Home Economics Association, and has assisted on an American Dietetic Association committee working on the training of the nutritionist. Miss White is the author of several published articles on nutrition in relation to dental problems and has arranged exhibits and assisted in "refresher" courses for various organizations of dentists.

Vivian V. Drenckhahn holds the B.S. degree in home economics from the University of Minnesota, the M.S. degree in nutrition from Cornell University and a C.P.H. (certificate in public health) from the Massachusetts Institute of Technology. Miss Drenckhahn has been health teaching consultant since 1933 for the Buffalo Tuberculosis Association of Erie County, New York. Before going into the health education field she was a home economics teacher and later a home demonstration agent.

Reena Roberts Hasker, B.S. Simmons College, M.A. Columbia University, was formerly an instructor in home economics in North Bennington, Vermont, and director of home economics in Woonsocket, Rhode Island. Later she served as instructor in home economics at Cornell University for three years, and for four years as assistant professor of home economics at Cornell. After her marriage in 1926, Mrs. Hasker did part-time teaching in private schools and since 1933 she has been a volunteer instructor in the Food Clinic of The Johns Hopkins Hospital.

E. Neige Todhunter was noted under this section of the JOURNAL for September 1937. Formerly assistant professor of nutrition, Dr. Todhunter is now associate professor of nutrition in the College of Home Economics of the State College of Washington, Pullman.

Florence E. Bateson, B.S. University of Washington, is a graduate of the Approved Training Course for Student Dietitians, The Johns Hopkins Hospital. Miss Bateson has had graduate study in institution economics at the University of Chicago. She was a therapeutic dietitian



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in the Out-Patient Department and later administrative dietitian at The Johns Hopkins Hospital. Miss Bateson then served for seven years as chief dietitian at the Cleveland Clinic Hospital. She has been a member of the Approval Committee (for hospital courses) and the Nominating Committee, and national publicity chairman of the American Dietetic Association. Miss Bateson was president of the Ohio Dietetic Association in 1935–1936.